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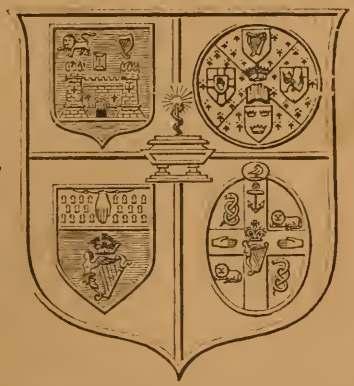

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1. Manual of Bacteriology. By Dr. S. L. Schenk. Translated by W. R. Dawson, B.A., M.D., Univ. Dubl. London: Longmans, Green, & Co. 1893. 8vo. Pp. 310.

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28. The Chicago Daily News. July 11 and 12, 1893.

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32. Second Edition. Operation Blank. Prepared by W. W. Keen, M.D. Philadelphia: W. B. Saunders. 1891–1893.

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41. Elastic Constriction as a Hæmostatic Measure. By N. Senn, M.D., Ph.D. New York: Trow. 1893. Reprint. Pp. 8.

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44. Twenty-first Annual Report of the Local Government Board, 1891-92. Supplement containing the Report of the Medical Officer for 1891-92. London: Eyre & Spottiswoode. 1893. 8vo. Pp. xvi–212.

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48. The Physician and Surgeon. May, 1893. Volume XV., No. 5. Detroit and Ann Arbor.

49. The Journal of Balneology. Vol. VII., No. 5. May, 1893. New York.

50. The Rotatory Movements of the Human Vertebral Column and the so-called Musculi Rotatores. By Alfred W. Hughes, M.B. Edin., &c. Edinburgh: E. & S. Livingstone. 1893. Pp. 33.

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4. A Manual of Chemistry: Inorganic and Organic, with an Introduction to the Study of Chemistry. For the Use of Students of Medicine. By ARTHUR P. LUFF, M.D., B Sc. (Lond.), M.R.C.P.; Fellow of the Institute of Chemistry; Fellow of the Chemical Society; Physician to Out-patients in St. Mary's Hospital, and Lecturer on Medical Jurisprudence and Toxicological Chemistry (late Demonstrator of Chemistry) in the Medical School, - - 201

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5. Alcohol and Public Health. By J. James Ridge, M.D., and M.D. (State Medicine) Lond.; B.S., B.A., B.Sc. Lond.; Medical Officer of Health, Enfield. Second Edition, - - - - 203

6. A Text-book of Medicine for Students and Practitioners. By Dr. Adolf Strümpell, Professor and Director of the Medical Clinique at Erlangen. Second American Edition, translated by permission from the second and third and thoroughly revised from the sixth German Edition, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University, &c., and Philip Coombs Knapp, A.M., M.D., Clinical Instructor in Diseases of the Nervous System, Harvard University, &c.; with editorial notes by Frederick C. Shattuck, A.M., M.D., Jackson Professor of Clinical Medicine, Harvard University, &c., - - - - 207

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8. Tooth Extraction: a Manual on the Proper Mode of Extracting Teeth. With a Table exhibiting in Parallel Columns the Names of all the Teeth, the Instruments required for their Extraction, and the most approved Methods of using Them. By John Gorham, Member of the Royal College of Surgeons, London; Fellow of the Physical Society of Guy's Hospital, &c. Fourth Edition, - - 209

9. The Transactions of the Edinburgh Obstetrical Society. Vol. XVII. Session 1891–2, - - - - - - 210

10. A Treatise on Nervous and Mental Diseases, for Students and Practitioners of Medicine. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic, &c., - - - - - - - 210

11. Bulletin of the Harvard Medical School Association. No. 4, - 213

12. The Structures in the Mesosalpinx: their Normal and Pathological Anatomy. By J. W. Ballantyne, M.D., &c., and J. D. Williams, M.D., - - - - - - - 214

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It was long after the first introduction of Cod Liver Oil before means were devised for administering it in a palatable form. When an oil is given alone a considerable and prolonged digestive effort is required before assimilation is possible, and in not a few instances it is voided unchanged. Moreover, the digestion is generally soon deranged. The problem, therefore, was how to cover the unpleasant taste of the oil and at the same time to increase its assimilability. Emulsions were tried, but although the taste was somewhat masked, it was found that in the stomach the warmth of the body caused the oil globules to coalesce, and unpleasant and nauseating eructations were the result. Pharmacists lost sight of the fact that Cod Liver Oil is a food, consequently all other methods of sophistication, being wrong in principle, failed to give satisfaction.

The question was finally solved by the introduction of the Kepler Solution of Cod Liver Oil in Malt Extract. It was at length recognised that Cod Liver Oil was a *food*, and that the only rational way to take it was in combination with another food—for instance, as butter with bread. If the matter be considered for a moment, it will appear just as unreasonable to give Cod Liver Oil by itself as to give butter by itself. No stomach can be expected to tolerate it. In the Kepler Solution the oil is not emulsified; no oil globules are visible through the microscope; the oil is actually dissolved in the Extract of Malt. That being the case, it produces no unpleasant effects when taken in the stomach, but passes through the pylorus unaffected, and is readily absorbed by the lacteals.

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

SEPTEMBER 1, 1893.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VII.—*Some Modifications of Liston's Long Splint and Leg Side Splints, with Cradle for Swinging.*[a] By HERCULES MACDONNELL, M.Ch., M.D. Univ. Dubl.

I FEEL that an apology is almost due this Section of the Academy for introducing to your notice such trivial matter as slight modifications in leg and thigh splints. Yet for practical surgeons any adaptation which gives increased security and decreases discomfort is not unworthy of consideration.

I will first deal with some alterations in Liston's long splint.

The main object in treating fractures of the thigh is that extension and counter-extension are not perfectly complementary; when rigidity is secured, it is distressing to the patient either by undue pressure on the perinæum or an unnecessary amount of extension from the ankle; whatever method of extension obtains, the perinæum offers the resisting power to extension, and this of a non-elastic rigid character. No doubt springs and complicated interrupters have been devised, but they are not reliable or simple in their action. For the past ten years I have been in the habit

[a] Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, on Friday, January 20, 1893.

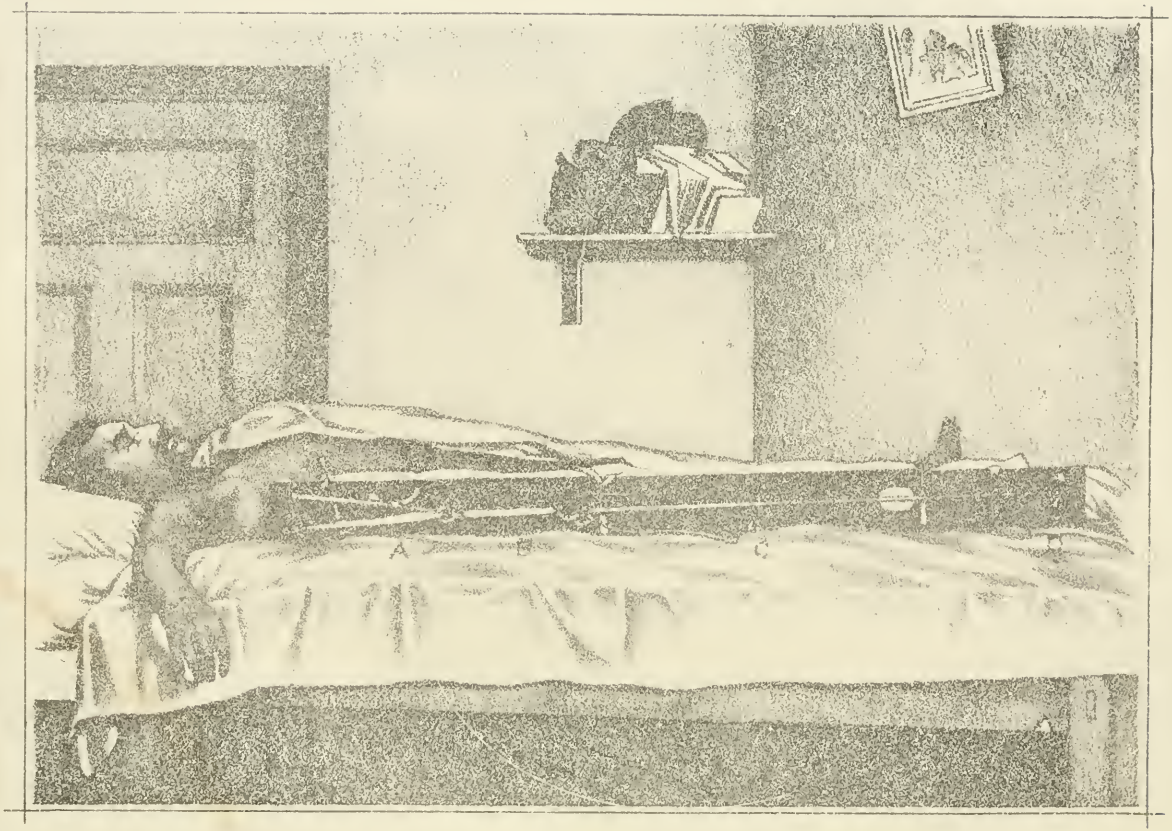
of using, both in hospital and private practice, Liston's long splint with one or two modifications, which I shall proceed to describe.

Just above the forked end of the splint I have had a round hole bored about half an inch in diameter; let into this is a brass thimble. The perinæal lac is made by sewing the usual pad along the middle portion of a strong linen web tape about five feet in length and one inch broad.

The chief modification consists of an India-rubber interrupter. This is made of solid India-rubber, varying in thickness and length, according to the elasticity required, and having a brass thimble, such as sailmakers use, lashed into either end. The interrupter most frequently required is $\frac{1}{8}$ of an inch in diameter and 6 inches in length; it requires an extending force of 14 lbs. to stretch it one inch. The splint is applied in the ordinary way. Extension is made from a plaster stirrup extending two inches below the sole of the foot. Into the loop is placed a block of wood, with a hole bored through the centre and rounded at the sides, so as not to cut the stirrup. The block should be the full breadth of the foot to take all pressure off the ankle. A stout piece of sash-line, with a knot at one end, is passed through the block and out through the eyelet at the forked end of the splint. This is carried up to the interrupter and through the eyelet at its lower end. The ends of the perinæal band are brought through the holes in the upper end of the splint; one is passed through the upper eyelet of the interrupter and fastened by a sheet bend or reef knot to the other end of the perinæal band. The fracture can then be reduced either in the ordinary way or by traction on the extension rope. In a few minutes the elasticity of the rubber overcomes muscular resistance, and nothing remains but to take off some of the extending force, fasten the rope, and put a bandage round the limb, leaving the lac, the interrupter, and the extension rope outside the bandage for future convenience. The result is eminently satisfactory. An endless elastic circuit is formed. The force is equally divided between extension and counter-extension; should either the rope or lac stretch, or in any way get slack, the India-rubber interrupter takes it up, and equilibrium is restored.

With properly made lacs, there is no danger of cutting, scalding, or chafing the perinæum. To raise the heel slightly off the bed, and keep the splint vertical, I use a simple rest. It is made of wood an inch thick, about 8 inches long, and 5 high; a slot the thickness of the long splint is cut out of it, a little more than one-

PLATE I.

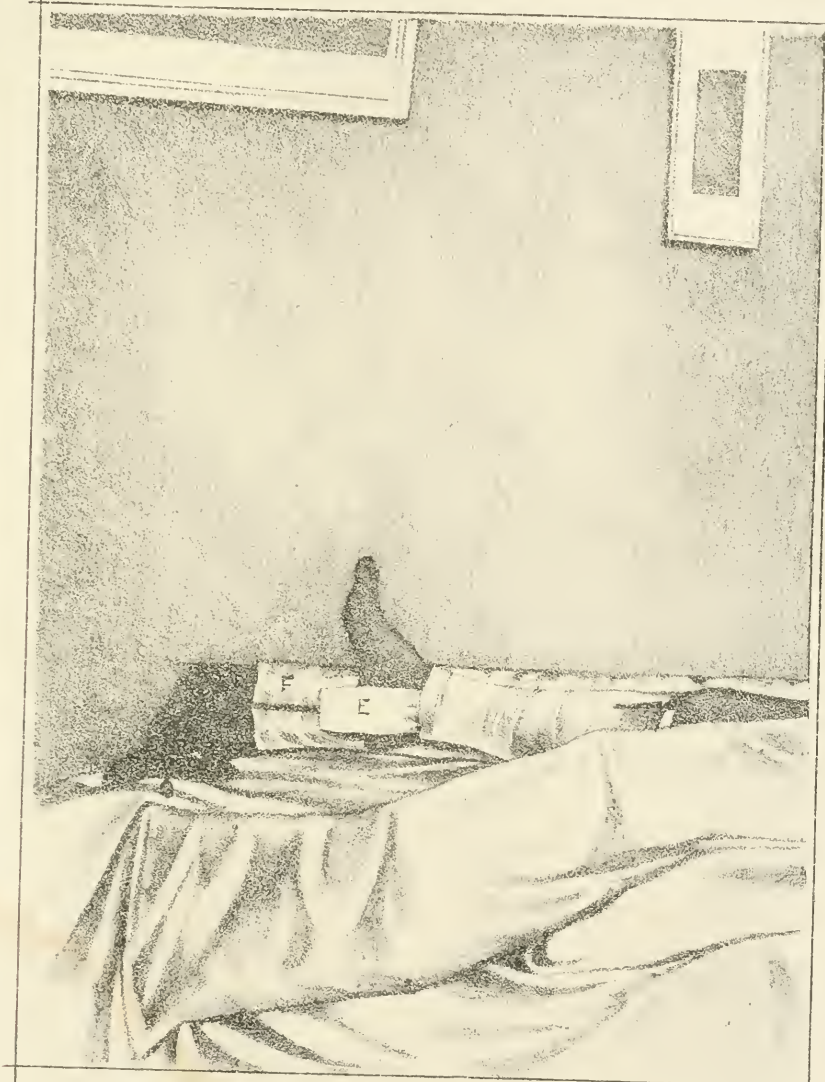


A. Perinæal lac, brought through splint at top and through eyelet in India-rubber interrupter.

B. India-rubber interrupter, with eyelets at both ends.

C. Extension rope, from plaster stirrup, passed through D (brass-mounted hole in splint), and rove through lower eyelet in India-rubber interrupter.

PLATE II.



E. Plaster stirrup.
F. Extension rope.
G. Cross rest, with splint resting in it.

third across it, not in the middle. When the splint is in the slot it raises the heel half an inch off the bed. The reason the slot is not cut in the middle is to have a longer lever on one side of the rest to counteract the tendency to inversion or eversion, the long arm of the rest being turned as occasion requires.

The leg splint I wish to bring before your notice is a modification of one frequently used when I was a student in the City of Dublin Hospital. It consists of two wooden side splints pierced at the lower end to permit two bolts to traverse a foot plate, thus keeping the side splints firm and the foot plate in position. Formerly this was accomplished with fine threaded bolts and nuts, the bolts passing through two brass eyelets screwed into the back of the foot plate, this being at a right angle.

The apparatus was not very secure, and the position of the foot was irksome.

In addition to the side splints and foot plate the apparatus consists of a piece of calico the length of the splint and once and a half as broad, with the necessary pads.

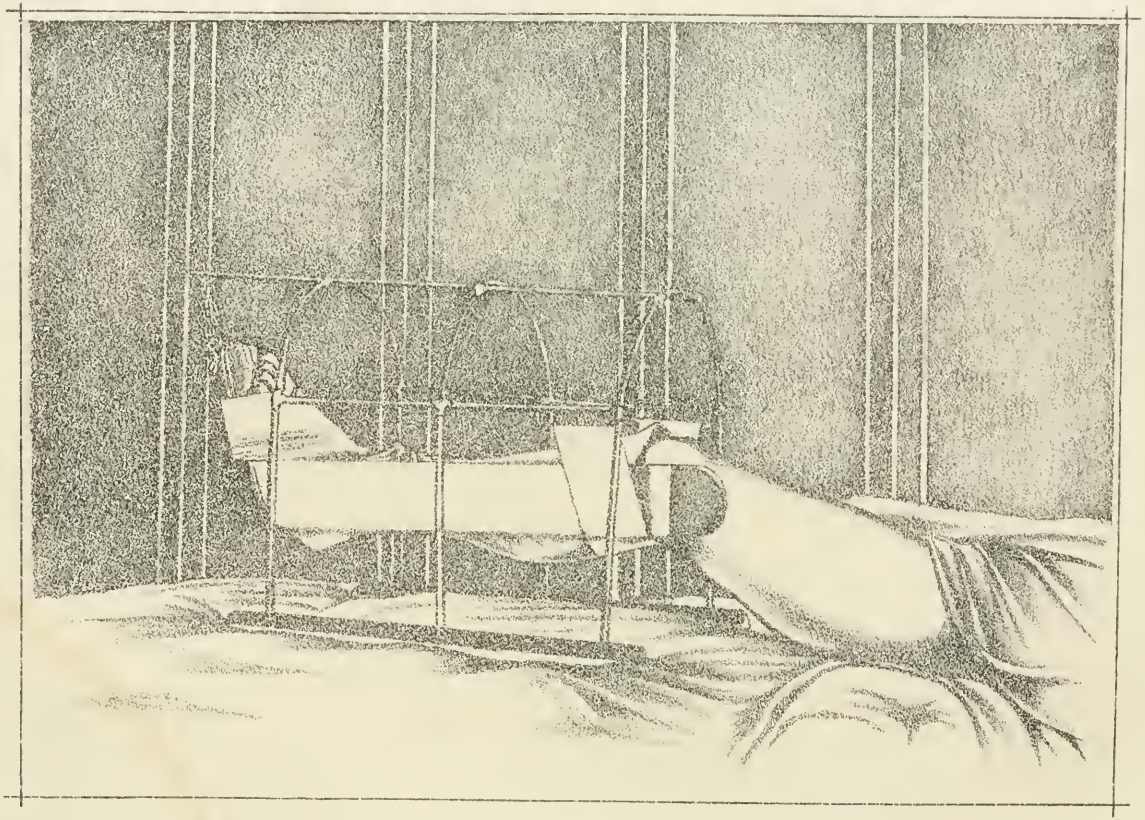
The modifications I have adopted are as follows:—Instead of the foot plate being vertical, it slopes slightly; this gives increased comfort. Instead of eyelets on the back of the foot plate, the foot plate is perforated from side to side to take the bolts. Instead of nuts to fasten the bolts, thin brass plates an inch and a half broad are let into the outside of the lower end of the side splints; one of these plates has two female screws. The bolts are made with a long pitch in the thread to work quickly, each revolution of the bolt approximating the side splints half an inch.

The mode of application is extremely simple. The fractured leg is placed over the centre of the piece of calico. Each side splint is laid along the leg in the position it is intended to occupy, then rolled over backwards till the edge of the calico is reached; this is tucked over the edge of the splint, which is rolled back again to the leg, this time covered with the calico; a pad is placed next the limb. The other splint is similarly put in position. The foot plate, with its pad, is placed against the sole, the two bolts run through all and screwed up to the necessary tightness. A figure-of-eight bandage is placed round the instep and over the ankle. A strap and buckle are placed loosely just below the knees. The fracture can then be reduced, and on tightening the strap perfect immobility is obtained. I find wheaten straw in calico the coolest pads. The main advantages of this splint are its perfect

adaptability to any sized leg; pressure being lateral and controlled by the screw bolts, the side splints with the calico underneath act as a sling to the leg; the calf moulds the calico to fit it accurately, and the heel does not bear on anything; the entire front of the leg is uncovered, and the slightest displacement can be readily detected.

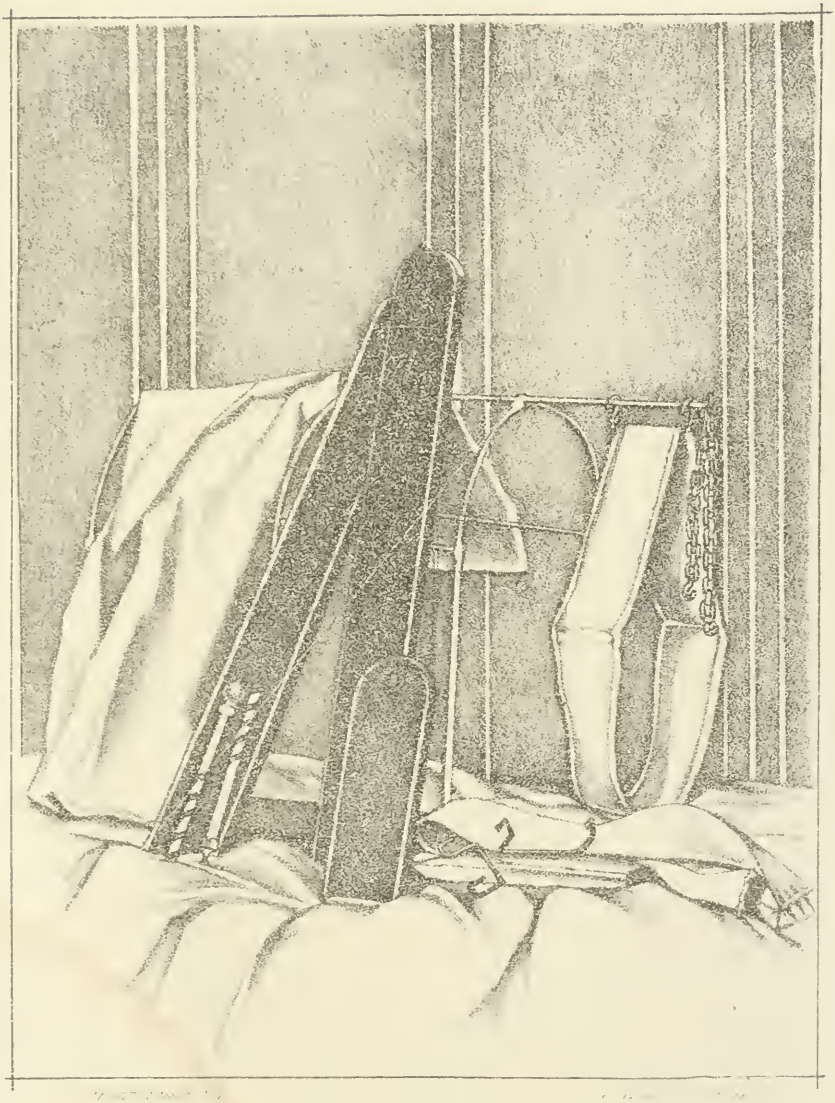
Compound fractures can be treated with great convenience, as each side splint can be rolled back while the other remains in position, dressings and pads can be replaced, and, with a little care, the calico changed, though this is seldom necessary if a piece of waterproofing, covered with finely teazed oakum or tenax, be placed over the calico and next the limb. To insure complete comfort it is necessary to swing the leg. I have had cradles made of a very inexpensive and simple nature. They are composed of two wooden bearers, with three round galvanised iron wire hoops, $\frac{3}{16}$th of an inch thick, the top of the cradle being about 18 inches high. Half way up these hoops are bound together by a single wire of equal thickness, soldered to each separately. Another wire runs along the top half way over the curve, and projects some 4 or 5 inches, being turned back on itself to form the corresponding stay on the other side; these form a sort of outrigger, meeting at the projected end. The foot plate has a brass eyelet screwed into it, and a thin chain slings the foot plate to any desired height from the end of the outrigger of the cradle. An endless band of calico $2\frac{1}{2}$ or 3 inches broad is folded on itself and passed under the splint below the knees; this is secured to the side stays on the cradle by two pieces of light rod-iron wire clips made the width of the calico sling, turned up at a right angle to the bearing bar, and bent backwards at the extremity to catch the side stay of the cradle.

Nothing can be simpler than this method of slinging. It is firm. The limb can be raised or lowered to any height, and no part of the limb rests on any unyielding substance. I have treated some hundreds of simple and compound fractures by this method with satisfactory results, and have never heard a patient complain of that bane—a sore heel.



Cradle, with leg in position in side splints, swung by chain from foot-piece, and endless linen swing under knee.

PLATE IV



ART. VIII.—*Skin Eruptions of Rheumatic Origin.*[a] By TRAVERS R. M. SMITH, M.D., B.A., Univ. Dubl.; Member of the Harveian Society; Resident Medical Officer, Kilburn Dispensary, London, N.W.

WHEN one muses upon an affection with such protean manifestations as rheumatism, yet of the pathology of which, at least so far as concerns morbid anatomy, so little is known, one may well feel that he is treading on very uncertain ground when dealing with skin eruptions of rheumatic origin. But whether we think we understand the pathology of rheumatism or whether we do not, this affection nevertheless, I suppose, remains for every one of us an indubitable fact and entity, whatever our theories may be or howsoever experience may have taught us.

Those whose observations of rheumatism have, perforce, been subjective as well as objective, carried on *nolens volens* in *corpore vili*, will perhaps agree with me in thinking that such experience is likely to bias the mind in favour of giving a possibly too prominent place to *pain* as a pathognomonic symptom of the affection. But *pain* in affections of the integument, as we know, differs much in intensity, *cæteris paribus*, according to the depth of tissues involved, their density or compactness, and the amount of resistance offered by neighbouring structures.

In other words, pain depends on the relative liability of the terminations of the sensory nerves—the touch corpuscles, end bulbs, and Pacinian bodies—to be effectually compressed by exudation.

A child, *e.g.*, with erythema nodosum, will cry with the pain of the eruption when it affects the integument stretched immediately over the shins, and not be conscious of the nodosities which may at the same time be present in the looser skin over the forearms.

In erysipelas of the face the eyelids may be enormously swollen with little more than some inconvenience to the patient. This is, no doubt, due to the elastic and yielding material which fills the orbit, and which acts as an effective buffer. Yet, when the erysipelas has spread to the scalp, stretched as it is immediately over bone, it causes such intense pain that the condition of the patient often becomes alarming, and there may be considerable delirium—insomuch that it used to be taught that

[a] Read before the Priory Medical Club.

in such cases the erysipelas had spread to the meninges of the brain.

If this holds good of a disease which, as is known, affects the skin in its whole depth as well as the subcutaneous tissue, *à fortiori* pain will not be a symptom when the upper strata of the corium, or the epidermis only is affected, in eczema capitis, for instance, when the swollen tissues meet with no other resistance than that offered by atmospherical pressure. These considerations may seem trivial, but, I think, they help us to understand how it is that we hear so little of the eruptions which, according to Drs. Barlow and Cheadle, may be the only manifestation, present at one time, of rheumatism. Another reason, no doubt, is to be found in the fact that these rashes, when widely diffused over the body, so closely simulate, may be absolutely identical with those of measles, German measles, and scarlatina. The difficulty of differentiating between them is further enhanced when we recollect that tonsilitis, which is generally recognised as pathognomonic of Rötheln and scarlatina, may owe its origin to a rheumatic factor.

DIFFERENTIAL DIAGNOSIS.

Attention to the following points may, however, generally enable one to form a correct diagnosis:—

The mode of *distribution* of the eruption, which, contrary to what obtains usually in the exanthems just named, is likely to manifest itself *first* on the extremities and may be entirely limited to them.

The *tout ensemble* of the constitutional symptoms—*e.g.*, there being no distinct and sudden invasion, as in scarlatina; or catarrh of the conjunctivæ and larynx, as in measles.

The *time of year.* Most cases appear to occur during the colder months, and especially in autumn (Dühring).

The evanescence of the rash and the absence of subsequent pigmentation will exclude the syphilides.

It is needless to add that the possible concurrent prevalence of an epidemic of some one of the exanthems should be ascertained.

Case I.—H. S. September 27th, called to see well-nourished boy, aged twelve, who had a large papular rash, thickly covering the arms and shoulders and the legs from the waist downwards.

The face, as well as the upper part of the trunk, was quite clear. The rash was identical with that of fully-developed measles, but there was no catarrh of eyes or nose; and it was difficult to decide whether the fauces might have been slightly congested or not. His temperature was 101°.

The following history was given:—Two days previously he began to feel ill and vomited. The next day a rash was noticed on the feet.

On my second visit—viz., third day of illness—there was a cluster of small acuminate papules on each cheek, and larger papules were distributed rather sparsely over the upper part of trunk, where, on the day before, there was nothing to be seen. The sclerotics of both eyes, moreover, were injected, and the throat appeared this time to be really congested.

The rash on the abdomen and the lower limbs gradually became more diffused and confluent, till the parts were uniformly red as in scarlatina, except for some thin serpiginous lines of anæmic skin, which could be detected near the popliteal spaces. On ninth day of illness the boy complained of pain over præcordial region, and the first sound was found to be muffled. The next day there was a distinct murmur, presumably mitral systolic, which, on the following day, became musical in character.

The rash faded without desquamation or without leaving any appreciable traces of its presence, except that on the upper part of the back, where it was more discrete, and where the papules were the largest (size of split pea), there was, for a day or two, some faint yellow pigmentation.

Mother reported on eleventh day of illness that in the morning she noticed the feet were swollen on the dorsal aspect. There was next to no constitutional disturbance throughout, although for at least eleven days there was a rise in the temperature, which ranged from 101° to 102°. The rash lasted some ten days.

Nov. 22.—Three weeks afterwards his condition was the following:—Anæmic; musical murmurs; stiffness at the back of knees; pain in the feet, which the mother says are always swollen in the morning, so that he has great difficulty in putting on his boots. She then relates that just a week before her boy took to his bed she was returning home one evening—it was a Saturday—and the young fellow let her into the house. He was in *puris naturalibus*. He had been busy taking a warm bath when he heard his mother's knock at the door, and jumped out without even drying himself. He shivered for a long time after this, and complained that he could not get warm.

Case II.—J. G. (September 26th), boy, aged five. Papular erythema over the lower limbs from the buttocks downwards—very like measles; no catarrh of eyes or nose; slightly swollen tonsils; temperature 99°;

no constitutional disturbance. Rash lasted some three or four days, and faded away without any desquamation or leaving any traces.

A week later when calling I found the child suffering from torticollis and looking distinctly anæmic. Heart sounds normal. No history of parents could be obtained (illegitimate). Other children circulating around this child—no other case. No epidemic of any of the exanthems in the neighbourhood at the time.

Case III.—Mrs. W. (Jan. 30, 1888), laundress, aged forty-nine, well-nourished and healthy-looking.

While at work she was taken with pains all over the body, and had to take to her bed. When I saw her she had round, dark-red, slightly-raised spots distributed rather sparsely all over the body. Papular erythema. There was no appreciable constitutional disturbance. The rash was not unlike a syphilide. It lasted barely a couple of days, and left no trace of its presence on the skin. I did not, unfortunately, inquire whether this woman was of rheumatic habit. She has now gone to Dalston.

Case IV.—Mrs. H. (Jan. 10), aged thirty; thin, anæmic woman; gave the following account of her illness:—Took a warm bath on Sunday morning, and after she was dressed she began to shiver so much that in order to get warm she had to take to her bed. After a while she perspired profusely, and next morning she had what she called an attack of measles. It first appeared on the lower part of the body, and lastly on the left arm. It caused her great irritation, so that on the Tuesday when I saw her one could see the marks of nails and many small round excoriations, which corresponded no doubt to the summits of papules or wheals, for the itching suggests urticaria. The rash, or rather what remained of it, was visible only on the left upper arm. It was too slight, however, to be of any interest. She had no catarrh of the nose or the conjunctivæ, but she had red and tender fauces and a furred tongue. The superficial lymphatic glands over the sterno-mastoid muscle of the left side of the neck were somewhat enlarged and tender.

She has never had rheumatism, but she says her mother was a martyr to it, and she is the only one of the family who has escaped.

Dr. Kingsbury, of Blackpool, in a communication to the *British Medical Journal* for December 8th, 1883, mentions the case of a young man who got an attack of acute urticaria with high temperature, sore throat, itching, pains all over, and thirst with furred tongue. He was believed to be suffering from scarlatina. The cause as such is not adduced, but it is men-

tioned that he was training for some swimming races when he fell ill.

Are these cases instances of erythema caloricum—effects of temperature—due to a sudden cooling of the skin? Are they caused by functional derangement of the nervous system, what Mr. Hutchinson would call "truly catarrhal affections"—*i.e.*, essentially reflex in their mode of origin?

Case V.—R. C., little girl, aged one year and ten months. She had been suffering for a few days from bronchial catarrh, and was anæmic.

Nov. 1st.—Erythema nodosum on the front part of the legs. Papular erythema on forearms, about the elbow-joint.

Nov. 2nd.—Spots, which had been discrete, had now coalesced. Over each shin there was a large pale swelling, looking like a gigantic wheal (urticaria tuberosa), and on the forearms deep red patches of erythema marginatum.

Nov. 15th.—Ankles and lower part of legs reported to be swollen and painful.

History.—Father, and likewise grandfather and grandmother on maternal side, said to have suffered from rheumatism.

Case VI.—E. N., a young man, aged eighteen, whom, on my first visit, I found lying motionless on his back with his knees drawn up. He complained of severe pain all over the body. He was extremely anæmic, all the more strikingly so that his hair was jet black. His mother informed me that some time previously he had had rheumatic fever, and I agreed with her in thinking that his present illness was of the same nature. The next day he developed a few spots of erythema nodosum on his legs and on one shoulder. Fresh nodosities kept making their appearance during the following days, while the older ones underwent changes similar to those which occur in an ordinary bruise.

All parts of the integument became affected except on the lower part of the trunk, and, I believe, the scalp, the palms of the hands, and the soles of the feet. On the dorsal aspect of his hands and fingers there were some very neat examples of erythema iris—*i.e.*, a fresh red spot occurring in the centre of an older one which had already become purple or yellow, and there were also one or two perfect rings with an anæmic centre (erythema annulatum). His face, moreover, presented a strange appearance. Besides a few large nodosities on his temple and forehead, one formed in the upper lid of each eye, and, owing to the loose tissue of the part, caused swellings which completely obliterated vision, and which in hue, size, and position exactly resembled those that pugilists are wont to inflict with their well-aimed blows.

About this time he complained of pain in swallowing. This was found to be caused by a nodosity which had developed in the soft palate; another subsequently formed in the tongue which swelled so much that the mouth for several days could not be closed. By sighs and groans the poor fellow then tried to indicate that he had pain in his abdomen, which was discovered to be tender on pressure and highly tympanitic. The patient now rapidly altered for the worse. The meteorism increased to an enormous extent, so that the skin of the abdomen had a glossy appearance, the pulse became small and thready, and a condition of collapse was set up from which it was not thought there could be any rallying. From this time, however, improvement began to set in. There was no recurrence of eruption, and the young man made a good recovery. When the swelling of the tongue, however, had subsided, there was found in the place of the nodosity a punched-out ulcer with clean edges, large enough to admit the tip of the finger.

Case VII.—Friday, Dec. 16.—G. H., healthy-looking, well-nourished, full-blooded boy, aged four. Nothing abnormal except urine, with considerable deposit of lithates, and a couple of blotches of erythema, one of which round, the size of a florin, was situated on the right thigh, the other, the size of an almond, on the right side of the chest in the axillary line.

The history of the case was, however, somewhat remarkable:—The previous Monday, four days before our visit, he came back from school with his face much swollen and red, "looking like a tomato." He complained of great pain in the head and some pain in the legs. It came on in paroxysms causing him to sob, "it was," he said, "like boys jumping on his head."

On Tuesday night mother noticed red blotches on his shoulders.

Wednesday—Blotches on the legs, then on the arms.

Thursday—Sore throat.

Two days after my first visit the boy's ankles were swollen and painful. A week later he complained of pains in the joints of his fingers (the articulations between the 1st and 2nd phalanges).

Mother very rheumatic, likewise her sisters. Remembers having had red spots on her legs the first time she had rheumatic fever.

Diet of child carefully inquired into. This possible ætiological factor can, I think, be put aside.

Case VIII.—E. D. (Dec. 3), girl, aged eleven, anæmic, but otherwise well nourished. Complained of pain in the right side extending along right axilla to the inner side of the arm. These parts were very tender on pressure (rheumatic dermatalgia), and it was with some difficulty that a physical examination of the chest could be made. This revealed moderate pleuritic effusion on same side as the pain.

The following history was given:—Five days previously her eyes were much swollen.

The next day she was thirsty, and "it hurt her to swallow" (sore throat).

The next day.—Pain in right side, so that "she couldn't cough."

The next day.—Hands swollen, and the following day, preceding my visit, she had pains in her right axilla and right arm.

She was put on sodii salicyl., gr. viii., every 4 hours. When I called next day, approximately 17 hours afterwards, when not more than gr. 24 of the remedy had been taken, she had faint erythematous patches, irregular in outline, on the forehead and on the right forearm.

She complained, moreover, of pains in her legs, and her mother informed us that in the morning she noticed a "peculiar mottled" appearance of the skin over these parts.

Temperature above normal, reaching to 104°.

Three days afterwards she had again erythematous patches on the face, one of which extended from the bridge of the nose underneath the eyes on either side, in the shape of a butterfly. She complained, moreover, of pain in her right leg, and had on the inner side of the right thigh an erythematous macula the size of an almond.

Case IX.—A. G. August 27th, 1890, called in to see a spare little girl, aged seven, suffering from uncontrollable vomiting with pain in the stomach. The mother gave the following history:—Eight days before the backs of the hands were swollen and painful, the next day the legs were similarly affected and remained so for a couple of days. On the latter she noticed "red spots," the largest of which might have been the size of a sixpenny piece. The swelling was such that she was obliged to cut the child's drawers with scissors to get them off before putting her to bed. Two days afterwards the child had sufficiently recovered to go into the garden, but the following day (forty-eight hours before my arrival) she began to lose her appetite and to become fretful—vomiting and sickness setting in gradually and ever increasing in frequency. I saw the child in the morning, and the same day, about six o'clock, they sent for me. The child had for hours been complaining of great pain in her abdomen, and had just passed some three or four ounces of pure blood per anum. On account of the extreme pain the child was still suffering, she was given ¼ gr. morphia suppository with directions to give a second in the night if necessary. On calling next day I found they had been obliged to do this. The pain was subdued, but vomiting still went on for several days apparently quite unaffected by drugs. It did not stop till the latter were put aside, and a few drops of "liquor carnis" in a teaspoonful of water given every hour.

At the end of the first week of my attendance on this case a cluster of red papules (erythema papulatum) was noticed over each elbow on the

extensor side, similar, the mother informed us, to what appeared on the legs.

The child made a very slow recovery, and remained dejected and listless for weeks.

Two uncles on the maternal side had had "rheumatic fever," otherwise no rheumatic history. The child had not previously had rheumatism, nor has she (December, 1892) developed any rheumatic symptom subsequently.

Dr. Barlow (in his Opening Address to the Brit. Med. As. in 1883 on "Rheumatism in Children") adduces examples of such cases as above, which he believes are of rheumatic origin.

Osler describes them under name of "Angioneurotic Œdema," and quotes Quincke, who speaks of them as vasomotor neuroses, under the influence of which the permeability of the vessels is suddenly increased.

Case XI.—G. During cold weather (January), a spare young woman, aged twenty-four, with a florid complexion, came to us with a cluster of red papules along the outer border of her chin on the left side. They were somewhat tough to the feel and were a little painful when touched. They were preceded by pain in the left ear. This patient says that she had had a similar affection once before, not preceded by pain in the ear that time. She attributes it to the effect of cold air which always makes her face, she avers, feel swollen and puffy.

She has had rheumatism as a child, and suffered much from chilblains on hands as well as feet, and has had cramp in her legs at times. This young woman's mother is hardly ever free from rheumatism. She also suffered much from chilblains and from cramp, or rather, as she describes it, from the muscles going "into knots."

Chilblains are, as we know, due to cold, and generally attack anæmic children; cramp is generally attributed to fatigue of a muscle, to the presence of so-called "fatigue products." These ætiological factors are identical with those which give rise to rheumatism. Have they any connection with rheumatism? Clinically it is often difficult to differentiate between them—*e.g.*, a large chilblain attacking the foot looks very like a rheumatic affection. Lendenweh (our lumbago) is, by some German authorities, described as an idiopathic tonic cramp of the quadratus lumborum.

Could chilblains and cramp be early manifestations of the rheumatic diathesis? or, at all events, indicate a proclivity to

rheumatism? They depend on vasomotor disturbances, which lie at the root, I suppose, of all these phenomena.

My attempt at relating these few cases, if, indeed, we have been dealing with genuine manifestations of rheumatism, will, I hope, have served at all events to show that one can see the most varied forms of erythema arising from one and the same ætiological factor.

The most appropriate name to give them will assuredly be the most comprehensive, and the term "erythema multiforme exudativum," invented by Hebra, appears to me to be the most suitable. Before his time erythema urticatum or urticaria, roseola, erythema papulatum, nodosum, annulatum, marginatum, &c., &c., were each one considered as different diseases, in so much that, as he pointed out, there were more names than diseases to give these names to. To his genius is due the credit of having grouped these various forms together under the generic term of "Non-Contagious Polymorphous Erythemata."

The nature of the anatomical process in all the varieties enumerated under this head is identical, and consists of capillary hyperæmia of the superficial layers of the skin, with stasis and more or less exudation. Sometimes this is further accompanied by actual hæmorrhage, as evidenced by ecchymotic colouring—*e.g.*, the so-called peliosis rheumatica or rheumatic purpura.

In discussing the ætiology of these eruptions Hebra says that, when some toxic element cannot be adduced, "it is safe to assume that temperature and clothing have great influence in causing them."

Dühring, in his work on "Skin Diseases," says that erythema multiforme generally makes its appearance in spring and autumn, and that it is often accompanied by rheumatism.

Trousseau has two interesting lectures on eryth. nodos. and eryth. papulatum respectively, in which he points to the rheumatic connection, and quotes Bazin, who taught that they were manifestations of the "arthritic diathesis" [*i.e.*, hereditary predisposition to rheumatism], Sir Thomas Watson, in his lectures, speaks of "E. nodosum being in one case followed, in another preceded, by rheumatism."

The observation is by no means a recent one, yet it deserves more consideration at our hands, I believe, than it generally receives.

The importance of making a correct diagnosis in these cases

is too obvious to be dwelt on; the possibility of being always able to make it is more questionable.

In conclusion, I should like to transcribe here a practical rule bearing on our subject. It is from the pen of Dr. Cheadle:—"Always in the case of children, whether unmistakable arthritis be present, or there be merely a stiff and painful tendon, or an unexplained febrile attack, or chorea, or tonsillitis, or erythema, it is most essential to bear in mind the possibility of having to deal with rheumatism and to examine the heart carefully day by day."—"Keating's Encyclopædia."

Case XII.—A. M. At a previous meeting of the Society a case was shown which served as an introduction to the foregoing paper. It was that of a young woman, aged twenty, the subject of a chronic form of urticaria.

The integument was generally the seat of the complaint, but now and then the buccal cavity, and, to judge from the pain in the gullet and in the stomach during and after the ingestion of food, the mucous membranes of these parts were liable to become likewise affected.

There was a systolic murmur heard at the apex, and she complained at times of pain in the præcordial region as well as in the limbs.

The urticaria itself did not give rise to much inconvenience, except when the feet or the hands were attacked, specially when on the plantar or palmar aspects. This was apt to come on frequently, lasting for several hours, and it generally rendered her unfit to follow any employment.

The accompanying notes are an abstract from the account of her case in the registry of St. Mary's Hospital, where she was an inmate five years ago:—

"Dr. Cheadle, 1887. 1227. A. M., admitted Nov. 7; discharged, Dec. 2, 1887. Chorea. *Family history*—Father had rheumatic fever once; no other history of rheumatism. *Personal history*—Had chorea eight years previously. In April, 1887, was treated for 'pains in all her joints, and spots about size of a two-shilling piece all over her.' *Present illness*—Choreic movement first noticed about fortnight before admission. *Condition on admission*—Somewhat anæmic; otherwise nothing noteworthy. Choreic movements well marked; general. Has 'urticaria over her hands, chest and back in parts.' Heart—systolic murmur at apex conducted into axilla; second sound accentuated over pulmonic area.

"*Nov.* 13.—Rash has completely disappeared; has had pains in joints; soft flowing systolic murmur still audible at apex; second sound reduplicated.

"*Dec.* 2.—Choreic movements having entirely ceased, patient was to-day discharged.

"*Temperature Chart.*—Nov. 7th, 98°; 9th, 99·5°; 10th, 98°; 11th, 99·4°; 12th, 99·8°; 13th, 100°–102°; 14th, 101°; 15th, 101°–101·5°; 16th, 99·5°–100·5°; 17th, 99°; 18th, 98° and thence onward normal."

BROWN-SÉQUARD'S ELIXIR.

As this eminent physiologist is re-asserting with great confidence the therapeutical efficacy of testicular and other glandular preparations, it may be interesting to cite negative evidence on the subject. *Lo Sperimentale* (of Florence) quotes from the *Riforma Medica* the results of a long series of experiments with the "liquido testicolare di Brown-Séquard," undertaken by S. Massalongo. He concludes that the testicular liquid of young and healthy mammals, injected hypodermically, has not the slightest effect upon the human organism; that the trifling and transitory modifications of circulation, respiration, temperature, and muscular power are explicable by the excitement and tension of the subject's mind; that any rare and transient improvement observed in the treatment of various organic diseases by this method was due to suggestion and the influence of imagination, to which causes alone is to be attributed the cure of some cases of hysteria and neurasthenia.

NATURAL FOOD.

Under the title of "Natural Food," a paper is being published by a new sect which has separated off from vegetarians on the important subject of starch. Those of the new departure teach that the food of primeval man consisted of fruit and nuts of sub-tropical climes, and that to these he ought to return. As it is not easy to get a suitable supply, the supplemental use of eggs and milk is permitted. Starch, however, is prohibited, whether as "cereals, pulses, or bread;" it is granted that they are in a measure fruits, but it is supposed that artificial selection has raised them far above their natural position. Probably a new prophet will arise in the sect to prohibit the use of cultivated fruits, as artificial selection has certainly altered them, and that haws, sloes, and crab-apples, in their seasons, will be recommended. So badly is starch thought of that meat is considered a lesser evil.

PENTAL.

N. Kleindienst (*D. Ztschrft. f. Chir. Vratch.*) found that of twelve persons anæsthetised with pental, albumen was found in the urine of eight; in three who suffered from albuminuria, the amount of albumen was largely increased, and the urine constantly contained hæmoglobin.—*Les Nouveaux Remèdes*, No. 9.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Psychopathia Sexualis, with Especial Reference to Contrary Sexual Instinct: A Medico-Legal Study. By Dr. R. Von Krafft-Ebing. Authorised Translation of the Seventh Enlarged and Revised German Edition, by Charles Gilbert Chaddock, M.D. Davis & Co.: Philadelphia and London. 1893.

It may seem to be the statement of a self-evident proposition to say that a great deal of information about a book may be derived from its title page, yet not only does the modern lady novelist cast about for a title which shall convey no inkling of the contents of her work, but we have been sometimes treated to a philosophical disquisition under the name of a discourse on tailors. Nor is this mode of using language to conceal the thoughts a mere modern invention, for it was adopted, in the headings of his chapters at least, by no less ancient and venerable an authority than the historian of that incomparable gentleman, Don Quixote de la Mancha. We may, therefore, be pardoned for pointing out what is shown in the title of the work before us. The original author of the book, the great Viennese Professor, is probably the most distinguished clinical authority in psychiatric medicine who has written in German since the days of Griesinger. He tells us in his preface that he felt necessitated to employ a learned title for his book, in order that it might not be read by persons for whom it is not designed. How widely this end has been missed will presently appear, but, we may ask, why the first words of the title should take a classic form when those immediately succeeding them, and showing at once the nature of the subject, stand in the vulgar tongue ? Used in this way the learned words only serve to stimulate curiosity.

The translator is a well-known American alienist. We do not approve of the odious "superior" tone in which some people are accustomed to speak of our American cousins; but we must say we hope if an Englishman had thought well to translate this work he would have been more tender to his mother-tongue than

Dr. Chaddock occasionally proves himself. A literal translation is not always an elegant or even an exact one. "Rheumatic Fever, with especial reference to Hyperpyrexia," as the title of a book, would hardly be quite correct English. Again, "contrary" does not exist as an English adjective in the sense in which it is here used. To be sure we say "contrāry" with jocular politeness to avoid calling a person perverse; but, in spite of Arundo Cami and his "tota contraria," and the well-known lady's epithet which he thus translated, "contrāry" is not English, and "perverse" or "perverted" is the proper rendering of the German "conträre."

So much for the title page. The substance of the book begins with what the author calls "a fragment of the psychology of the sexual life." Many of the philosophical and historical reflections contained therein are thoughtful and well expressed, but there is little that is new. Sometimes there occurs that restatement of a problem which thinkers so often mistake for a solution. Thus, speaking of the connection between religion and sensuality, the author says—"The well-established relations between religion, lust, and cruelty, may be comprehended in the following formula:—States of religious and sexual excitements, at the acme of their development, may correspond in the amount and quality of excitement, and, therefore, under favouring circumstances, one may take the place of the other. Both, in pathological conditions, may become transformed into cruelty." *May* be comprehended, &c.: perhaps so, but first we must comprehend the formula. So much nonsense has been talked about reversion to older types that one hesitates to suggest the explanation which a thoughtful friend has offered to us of the nexus between cruelty and lust in degenerate persons—namely, that in the earlier stages of the history of the animal the sexual act was associated with the ideas of capture, ideas also connected with seizure of prey, and that in this may lie a deep-seated connection between lust and blood-thirstiness.

The clinical instinct of the author has guided him correctly in the following observations:—"Undoubtedly man has a much more intense sexual appetite than woman. . . . In accordance with the nature of this powerful impulse, he is aggressive and violent in his wooing. . . . With woman it is quite otherwise. If she is normally developed mentally, and well bred, her sexual desire is small. . . . She remains passive. This lies in sexual organisation, and is not founded merely on the dictates of good breeding." That the view expressed in the last sentence is true,

is shown by the fact that, speaking generally, the same relation of the sexes exists throughout the entire animal kingdom, and, if it is not trusting the analogy too far, one might say through the whole vegetable kingdom as well. Everywhere the male courts, seeks, or finds the female, and the female is courted, sought, or found; where we cannot suppose an emotion or an instinct, we see the physical analogue—the male moves or is moved, the female remains at rest.

A few pages devoted to physiology do not call for special notice. The connection of the olfactory and generative functions is prominently brought forward. That such a connection exists in certain animals is clear, that it at least occasionally exists in man is probable, but we do not see that the author's examples are of much value as proving this. Flagellation as an excitant of sexual desire is mentioned, and it is pointed out that sometimes the practice of whipping children on the nates induces the earliest excitation of the sexual instinct, and may even lead to masturbation. Readers of Rousseau will remember that his confessions confirm this notion.

The third division of the book treats of the general pathology of the sexual functions, neurological and psychological. Sexual neuroses are divided into three classes—I. Peripheral; II. Spinal; and III. Cerebral. The first (strictly local conditions of the genital nerves) are not dealt with. The second (affections of the erection and ejaculation centres) are briefly spoken of, and the rest of this section treats of the cerebral neuroses. These are again divided thus—1. Paradoxia, *i.e.*, sexual excitement occurring independently of the physiological processes in the generative organs; 2. Anæsthesia; 3. Hyperæsthesia; and 4. Paræsthesia (perversions of the sexual instincts, *i.e.*, excitability of the sexual functions to inadequate stimuli). Under heading 1 are recorded some instructive cases of precocious sexual excitability, and of the painful reawakening of the sexual feeling which so often occurs in old age, particularly at the commencement of senile dementia. The most important and the longest portion of the book is that which treats of paræsthesia. "In this condition there is perverse emotional colouring of the sexual ideas. Ideas, physiologically and psychologically, accompanied by feelings of disgust, give rise to pleasurable sexual feelings, and the abnormal association finds expression in passionate, uncontrollable emotion." Sexual perversion is considered in great detail under various forms.

"Sadism" is the term which Von Krafft-Ebing, following French

precedent, uses for "the association of active cruelty and violence with lust—so named from the notorious Marquis de Sade, whose obscene novels treated of lust and cruelty." This most unholy association ("lust hard by hate") has been observed in many forms in the history of mankind—among the religious rites of savage nations, in the records of lascivious tyrants, in "the mad mock marriage of the Seine" (when the revolutionists used to tie naked men and women together, and with a travesty of marriage ceremonies throw into the river the unhappy wretches thus bound to each other), &c. No very distinct explanation of sadistic sexual excitement is attempted, but judging by references in one or two footnotes, the author seems to think that a certain probability exists that the explanation above referred to (idea of capture with violence associated with the sexual impulse) may be at the root of it. Some seven and twenty cases, many of the most revolting character, are given as exemplifying this condition. In some the connection between lustful and bloodthirsty acts is very close; in others, the incitement to cruelty was originally associated with sexual excitement of a type approaching the normal, and the normal sexual excitant appears to have lost power and given place altogether to bloodthirsty thoughts or acts which, in themselves and alone, became capable of producing sexual excitement and gratification; yet, others exhibit a tendency to sexual excitement at the sight of blood, or in the acting of cruelty, and the association of the two things is in no way clear. (In the last-named class there was originally, no doubt, some obscure association, the clue to which has been lost.) Among this general class (Sadism) the author places certain horrible cases of necrophily and the violation of corpses, also cases of anthropophagy, and cases where sexual excitement is produced in men by subjecting women to strange and disgusting indignities, the central idea apparently being in all the use of force and violence, the inflicting of pain and degradation upon the object of desire. With Sadism are occasionally associated bestial and other forms of perversion, and almost always masturbation in some form.

The direct opposite of Sadism in external form is Masochism,[a] in which we are told the central idea is that of suffering and being subjected to violence with the design of arousing sexual

[a] So called from Sacher-Masoch, another writer of filthy novels, in which this particular form of perversion is described or hinted at. One of the best-known novels of the modern French "realistic" (bawdy) school contains pictures of the same condition.

excitement. This condition is also frequently combined with masturbation, and occasionally with perverse passion towards the subject's own sex. Some thirty cases are given, many in great detail. Among these may be mentioned cases in which sexual excitement was aroused in men by getting women to trample upon them, and even to subject to more disgusting indignities. The author contrasts Sadism and Masochism at some length, and explains the latter thus:—"When the idea of being tyrannised over is long closely associated with the lustful thought of the beloved person, the lustful emotion is finally connected with the tyranny itself, and the transformation to perversion is completed. . . . Now and then this abnormality is hereditarily transferred to a psychopathic individual in such a way that it becomes transformed into a perversion."

"Fetichism" is the name by which the author, following Binet and Lombroso, proposes to designate a condition in which lust is associated with the idea of certain portions of the female person (unconnected with generation). or with certain articles of female attire. This is thus explained:—"The first awakening of the *vita sexualis* is associated with some partial sexual impression (since it is always something in some relation to woman), and stamps it for life as the principal object of sexual interest." Cases of this kind have been observed and recorded by Charcot and Magnan, and our author adds several from his own clinical experience.

The remainder of this section, and a very large portion of the book, is devoted to the consideration of perverted (or, as the translator will have it, "contrary") sexual feeling, which is defined as "diminution or complete absence of sexual feeling for the opposite sex, with substitution of sexual feeling and instinct for the same sex." This definition foreshadows the author's main position on this subject, which is essentially expressed in the following passage:—"Notwithstanding a normal anatomical and physiological state of the generative organs, a sexual instinct may be developed which is the exact opposite of that characteristic of the sex to which the individual belongs. . . . . This perverse sexuality appears spontaneously, without external cause, with the development of sexual life, ... and then has the force of a congenital phenomenon." This is identical with the statement of Ulrichs, who first described this condition, an account of whose writings may be found in Caspar. Our author has collected a very great number of cases. Page after page of his book is filled with the statements, confessions, and reports by patients, and the

loathsome details often given make one suspect that these wretched persons took a delight in recounting as well as in enacting their filthy practices. On the whole, the result is not conclusive. The contention that the potentiality for developments in a perverse sexual direction is innate in some men and women—in other words, that some people are congenitally endowed with the instinct of the sex to which they do not belong, is on the face of it so contrary to the common experience of mankind, and apparently to reason, that before we can accept it, we must have proofs of no ordinary clearness. Two facts, which he himself states, induce us to reject the conclusions arrived at by Professor Von Krafft-Ebing. First, with regard to masturbation, in the vast majority of his cases there is a distinct and unmistakable history of the early practice of this vice. In others, masturbation is probable, though not mentioned. In others, it is categorically denied, but these are very few, and we all know that confessions of this class are very unreliable, and that cases in which there is a strong sexual element are just the cases in which, though there may be even disgustingly full confessions, the one essential matter may be cloaked or omitted. Besides, the reminiscences of most, even honest, people as to their early sexual life are not very reliable, and are apt unconsciously to be distorted by subsequent experiences. We should specially fear this in a case where the patient strongly wished to be told that he was not a criminal but the victim of his organisation. That the troubles of these patients are generally heightened by their tendency to masturbation the author recognises. Secondly, besides the frequency of masturbation and the abnormally increased sexuality which his cases exhibit, the author points out that many of them were complicated with other forms of sexual abnormality—Sadism, Masochism, and Fetichism. As these are otherwise accounted for, Fetichism particularly appearing to be clearly accidentally acquired, it would appear probable that the form of disturbance now under consideration falls within the same category.

It seems to us that there is a more reasonable explanation for all this, and one which is none the worse for lying on the surface. The sexual instinct when it first arises is perfectly indefinite in its aim. This is the case among healthy children. It is, perhaps, even more so among neurotics, among whom, no doubt, it often appears too early—that is, before the other mental faculties are developed in proportion, and sometimes with undue force. Every

one knows of the various dirty acts which boys are apt to indulge in with the incipience of puberty, before there is any distinct impulse towards the opposite sex. No doubt it may happen not infrequently that when boys give way to masturbation at this time, a form of arrested or perverted mental development may take place, and men may continue, boy-like, to take more interest in their own sex than in the opposite ; or their passions having received some accidental warp, which the weakened neurasthenic mind of the masturbator is unable to rectify, may continue to develop in an abnormal direction, and centre round objects unconnected, or only casually connected, with the proper application of the sexual function.

We are disposed to think, indeed, that too much labour has been wasted by the distinguished author of this treatise in investigating with his incomparable clinical minuteness and skill what are probably in truth merely the rarer and more disgusting forms of masturbation. Professor v. Krafft-Ebing is one of the greatest living authorities in forensic medicine in connection with mental diseases, and perhaps the unpalatable subject of this book required to be studied from this point of view, but from a strictly pathological standpoint we fail to see how the pæderast or the man who practises mutual masturbation differs from the man who spontaneously acquires the habit of the solitary vice and seeks no other mode of sexual excitement. Such cases are not rare, and if the "urning's" plea is to be accepted, why might not they put in a similar one ?

In the therapeusis of the conditions he has described, the author places much reliance on hypnotic suggestion, and mentions striking cases in his own experience and that of Moll in confirmation of his views. That this valuable agency should prove of service here may well be true, but surely congenital mental states, congenital malformations of the organic instincts, will not readily and permanently yield to hypnotism.

The two last sections of the book are given to the consideration of pathological sexuality, as it appears in the various forms of mental disease, and of the same condition in its legal aspects. They are like the earlier portions—over-loaded with details, often of a very unpleasant character.

There are certain reasons which make us regret that this treatise has been translated, though no one can deny its clinical ability, and though the character of its author places his motives above

suspicion. From the translator's preface we quote a portion of an exculpatory pronouncement by Schrenck-Notzing—"To be sure the appearance of seven editions could not be accounted for were its circulation confined to scientific readers." A little way on in the book we find in the confession of a patient a statement that the writings of Sacher-Masoch have done much to develop perversion in those predisposed. If the public take a "pornographic interest" in the work before us, as we are told by Schrenck-Notzing, may it, too, not do harm? Again, in another confession, a wretched urning tells how he gave a copy of "Psychopathia Sexualis" to a comrade, seemingly to console him. A similar individual, writing to the author from London, quotes his book with which he was apparently familiar. We can hardly think that the horrible stories, of which it is full, can be beneficial for the general public, and we fear that, by the class with whom it deals, it may be put to the vilest use.

The translation of such a book is difficult, but we cannot altogether congratulate the translator. The following is very crabbed:—"Pathology has no easy task, in the single case, to decide, &c." This means: "has no easy task to decide in an individual case, &c." "A lady who was afflicted, mornings, with frightful attacks of erethism," is not good, and the son of a general who "was raised in the country" might not have been spoken of as if he was an acre of turnips. We are not sure how far the curious views of the original author as to the secrecy accompanying the use of Latin are to be blamed for this, but a grotesque effect is produced by the use of such words as *cum uxore* in the middle of an English sentence, and we cannot see why a woman should be designated a prostitute in one line and a *puella* in the next, and a *puella publica* a few lines lower down. On the whole, however, though we have only had opportunities of comparing it with the earlier editions of the original, and have not had the advantage (if it be an advantage) of reading "the seventh enlarged and revised German edition," we are inclined to believe that this translation has the merit of faithfulness if not of elegance.

A Contribution to the Pathology of the Vermiform Appendix. By T. N. KELYNACK, M.D., Pathologist to the Manchester Royal Infirmary, &c. London: H. K. Lewis. 1893. Pp. 223.

DISEASE of the vermiform appendix has only recently come to be recognised as the cause of the vast majority of cases of inflamma-

tion in the right inguinal region, hitherto vaguely described under the terms typhlitis and perityphlitis. It is, therefore, with great pleasure we welcome the admirable work before us. The author has spared no pains in collating all that is best in the now somewhat voluminous literature of the subject, while he has added several important original observations.

In an interesting chapter on the histology of the vermiform appendix, attention is directed to the relatively large amount of lymphoid tissue in the appendix as compared with other parts of the intestinal tract, first pointed out by Watney, and the resemblance of this structure to the tissue of the tonsil is insisted on. This is a point of considerable interest when we remember that suppuration in both these structures usually occurs before the age of thirty years, and, as the author shows, the similarity is further pronounced by the fact that the enteroliths found in some cases of appendicitis have the same chemical composition as the concretions frequently met with in the tonsil.

Although mainly pathological, there is an excellent chapter on the clinical aspects of appendicitis, and the author very wisely protests against indiscriminate operation in this disease. The lines laid down for deciding as to purely medical or surgical treatment form one of the most useful sections of the work.

There are 21 illustrations, but the original ones are very crude—neither accurate representations nor simple diagrams. These imperfections are further accentuated by the reproduction of some of Mr. Bland Sutton's beautiful figures.

The work concludes with a very complete bibliography and a fair index.

Diseases and Injuries of the Ear. By Sir William Dalby, F.R.C.S., M.B. Cantab.; Consulting Surgeon to St. George's Hospital. Fourth Edition. 1893. Pp. 276. With 8 Plates.

Few manuals on special subjects are so well written as this. These lectures of Sir William Dalby are clinical in the best sense of the word; they are simple for the beginner, clear for the surgeon, and sound and deep for the specialist. The plates of the membrana tympani under various conditions are beautifully depicted.

No volume we know of will in so short a time teach so much, and this knowledge is imperceptibly absorbed from its pages without any efforts of the memory, or much repetition of the text.

No earnest student should ever "qualify" without reading these interesting lectures once through. One omission which we notice is that, in his able chapter on foreign bodies, no mention is made by Sir William of the intense vertigo and feeling of intoxication sometimes produced by syringing the ear, especially in old people. This one should ever remember and guard against.

A Manual of Chemistry: Inorganic and Organic, with an Introduction to the Study of Chemistry. For the Use of Students of Medicine. By ARTHUR P. LUFF, M.D., B.Sc. (Lond.), M.R.C.P.; Fellow of the Institute of Chemistry; Fellow of the Chemical Society; Physician to Out-patients in St. Mary's Hospital, and Lecturer on Medical Jurisprudence and Toxicological Chemistry, (late Demonstrator of Chemistry) in the Medical School. With numerous engravings. London: Cassell & Company. 1893. 8vo. Pp. 525.

IN a convenient and judiciously prepared manual of 525 pages, the author of this volume has furnished the medical student with an excellent guide to the chemical department of his curriculum. As he observes in the preface—"To gauge correctly the wants of the student of medicine, and to appreciate rightly the position that must be assigned to the study of chemistry amongst his multifarious work, can, in my opinion, be best done by one who has himself been through the courses of study and work required for qualifying in medicine." With this opinion we entirely concur. We congratulate Dr. Luff on the result of his labours. We think that he has carried out his task thoroughly and well, and has placed in the hands of the hard-worked medical student of the present period the best chart hitherto published in the English language to guide him through the labyrinthine mazes of this rapidly growing science.

Like all the other volumes of this series, the one before us is beautifully and clearly printed on excellent paper, and does full credit to the taste and enterprise of the well-known publishing firm of Messrs. Cassell & Co. The text is arranged in five parts, of which the first is an "Introduction to the Study of Chemistry," the second is devoted to "The Non-metallic Elements and their Principal Compounds," the third to "The Metallic Elements and their Principal Compounds," the fourth to "Organic Chemistry," and the fifth to "Chemical Problems, Weights and Measures," &c.

For the style and treatment of the various sections of the subject-matter we have nothing but unqualified praise. In the first part of the book the author gives an excellent summary of the present state of our knowledge of the mysteries of chemical physics. The "atomic theory," "laws of chemical combination," "quantivalence," "empirical, molecular and constitutional formulæ," are treated with a crystalline charm of diction which we do not remember to have seen surpassed anywhere. This fact has enlisted our sympathies more than any other connected with the book, for we well remember—and remember with bitterness of recollection—that these general subjects were the ones to the understanding of which so little assistance was afforded us in the perusal of the text-books of our own student days.

The second and third parts of the manual give the properties of the various elements and their principal compounds. The more important laboratory experiments are described, and a well-selected series of woodcuts illustrate the text at appropriate intervals. The preparations of the metals from their respective ores is described in brief; and, although an acquaintance with metallurgy can hardly be considered necessary to the mental equipment of the medical student, a slight knowledge must possess an interest to every reader about to investigate the properties of the corresponding elements.

The fourth part, which deals with the facts of the rapidly expanding field of organic chemistry, gives a selection of the laws and facts of this department of the science which deserves special commendation for the discrimination displayed by the author in choosing the material most essential for the requirements of the medical student from the vast storehouse to which he had recourse. Under the head of "Rarer Organic Compounds" the author, in the concluding chapter of this part, gives attention to a series of the more important newly-discovered compounds which have been found of special importance in the armamentarium of the therapeutist.

In Part V. the author has collected an instructive series of chemical problems, with their solutions, "which for the sake of convenience will be arranged in three groups, viz.:—Group I. Chemical problems involving weight calculations only. Group II. Chemical problems involving both weight and volume calculations. Group III. Chemical problems involving volume calculations only." Then follows a table of weights and measures; and, lastly, tables

of the usual tests for the determination of the presence of the various metals and acids in solution.

After what has been already said we will only, in concluding, express the opinion that we know of no student's hand-book in the language which more fully meets the requirements of the class of readers for whom it is intended.

Alcohol and Public Health. By J. James Ridge, M.D., and M.D. (State Medicine) Lond.; B.S., B.A., B.Sc. Lond.; Medical Officer of Health, Enfield. Second Edition. London: H. K. Lewis. 1893.

The advocates of total abstinence are still working hard in the field of social reform. The evils of drinking alcohol in large quantities are hardly disputed by any one; the temperance party are determined to educate the rising generation in the belief that the inhibition of even small portions of the noxious beverage is necessarily followed by results harmful to both body and mind. Sir Benjamin Ward Richardson, M.D., F.R.S., who has lately been interviewed on this important question by a representative of the *Christian Commonwealth*, is reported to have said—"Drunkenness is a disease. I would isolate such cases at once. The quicker they leave off the better. I have never seen any mischief arise from making patients abstain altogether straight away. They grumble and complain, of course, and tell you how they feel it, and soforth, but I have never in my life known any physical mischief arise from it. Patients are treated as abstainers in the Temperance Hospital. They come to us there with all kinds of diseases; we have quite as many non-abstainers as abstainers, and I never find any difficulty. . . I never found a single patient who asked for stimulant." As a commentator on this report pertinently observes—"Perhaps it would require even more than the hardihood of the customary hospital patient to call on the apostle of non-alcoholic medication for a drink."

In the preface to this (the second) edition of his *brochure* on the alcoholic question, the author takes up the position of maintaining that "it is obligatory on the part of the defenders of alcohol-drinking to prove that it is harmless, and that till this is done we should advise total abstinence as a certain means of preventing all the evils, small or great, which result from its use." He has taken great pains to show experimentally the evil results of the absorption,

from time to time, of small quantities of alcohol on members of the vegetable kingdom. He anticipates and deprecates the objections of critics who are likely to question the value of his inferences. "The effect of alcohol on growing plants does not necessarily prove that it is injurious to animals; but when an injurious effect on animals has been otherwise demonstrated, then the gradually deteriorating influence of small quantities of alcohol on growing plants becomes a strong confirmation, and illustrates the fact that strong doses which do not show any immediately pernicious influences will, if continuously taken, at length be seen to be injurious."

The gigantic importance of the alcoholic question from the financial and political, as well as from the sanitary and moral, points of view, is abundantly proved by the fact announced in one of the opening sentences of the introductory chapter—"The expenditure on alcoholic liquors during the year 1891 amounted to no less a sum than £141,220,675. Even if the liquor which this amount represents had been evenly distributed among all the population, it could not have been taken without producing some effect for good or evil. But it is notorious that a very large part of the population, probably two-thirds, including children and adult abstainers, does not take any, and therefore the whole amount is divided among one-third of the nation." Surely the question of the value of the use of the different preparations of a beverage which is consumed on so gigantic a scale must be one of the most important that can agitate the minds of the British democracy.

Ever since the date of the plantation of Noah's vineyard, the use of alcoholic stimulants has formed a very important factor in the history of the human race. As we write there lies before us a copy of a volume published in London in the year 1743, with the following remarkable title:—"*Ebrietatis Encomium: or, the* Praise of Drunkenness. *Wherein is authentically and most evidently proved, The* Necessity *of frequently* getting Drunk; *and, That the* Practice of getting Drunk *is most* Ancient, Primitive, *and* Catholic. Confirmed *By the* Examples *of* Heathens, Turks, Infidels, Primitive Christians, Saints, Popes, Bishops, Doctors, Philosophers, Poets, Free Masons, Gormogons, *and other tope-ing* Societies, *and Men of* Learning *in all Ages. By* Boniface Oinophilus. De Monte *Fiascone.* A. B. C." In the preface to this remarkable volume the author assures his critics, "I declare that I did not undertake this work on account of any Zeal I have for

WINE, you must think, but only to divert myself, and not to lose a great many curious Remarks I have made upon this most *Catholic Liquid*."

It was well said by those of classical times, *Nullo vitio unquam defuit advocatus*. The author of *Ebrietatis Encomium* has collected from far and near the best arguments and *bon-mots* which have been published in favour of the practice of intoxication for the past three thousand years or so. Quasi-religious enemies of Cardinal Mazarin and of Oliver Cromwell, respectively, wrote pamphlets skilfully defending the thesis that "killing is no murder" when the victim is properly chosen; and an archbishop of the Catholic Church wrote an elaborate poem in praise of the practice of sodomy. The possibility of escaping for even a few waking hours from the overburdening sorrows and disappointments of life undoubtedly forms one of the great temptations to over-indulgence in alcoholic stimulants. So long as human woes are so widely distributed as they are at present—and have been so far back as history dates—we can prophesy with confidence that the demand for spirituous beverages will exist all over the world, and that the supply will be found equal to the demand. The prevalence of this depressing idea of the brevity of human enjoyments, and the hankering desire to escape from the cares of life, was well illustrated in the barbarously philosophical practice of the Scythians, who drank out of skulls; of the Egyptians, who exhibited skeletons at their feasts; and of the Romans, who used to cry out at their drinking festivals—*Amici, dum vivimus, vivamus.* The favourable opinions of Asclepiades and Hippocrates, of Homer and Plato, of Ovid and Horace, of Avicenna and Rhases, are all equally familiar to the author of this heterodox volume. The philosophic recommendations of Aristotle and of Plutarch, of Seneca and of Cato, of Cicero and of Scipio, are all introduced with the most pointed effect. Procopius of Gaza, and a French clerical authority—Father Frassen—are quoted in favour of the opinion that the plantation of vineyards and the imbibition of wine were familiar practices among the earth's inhabitants long before the Flood; and that, accordingly, Noah has no genuine claim to be the discoverer of the use of intoxicating drink, as he has often been supposed to be. The Divine Founder of Christianity was not an advocate of teetotalism, and St. Paul recommended to Timothy the use of a little wine for his stomach's sake, and his often infirmities.

There is no doubt that the crowding of so large a proportion of

the earth's inhabitants into large cities has gone far in more modern times to multiply enormously the evils produced by over-indulgence in alcohol. The existence of outspoken journalism, and the elaborate compilation of statistics, which now form prominent features of all civilised societies, have made the public fully familiar with the various phases of all the undoubted evils which result from the abuse of strong drink.

Dr. Ridge's booklet is divided into nine chapters, and is furnished with an index of authorities and a subject-index. The author has evidently expended much time and labour in the collection of the physiological and statistical information which go collectively to demonstrate the evil effects of alcohol, whether used in large or in small quantities. He has raked together the evidence of Orfila, Percy, Sir W. Roberts, Beaumont, Ogata, Harley, Schmiedeberg, Prout, Perrin, Fyfe, Vierordt, Lehmann, Hervier, St. Layer, Böcker, E. Smith, Richardson, Parkes, Count Wollowicz, Nicol, Mossop, Scougal, Kräpelin, Münsterberg, Kronecker, and other physiologists, supplemented by valuable original observations of his own, to prove the deteriorating influence of alcohol on the digestion, and on the various mental and physical powers of man. Pathological evidence of equal importance has been collected from equally important sources to show the inevitable effects of over-indulgence. In the third chapter he gives the results of his experiments on the effects of the absorption of small quantities of alcohol on vegetable growth, and in some of the lower forms of animal life. The influence was invariably found to be of a pernicious character. In other parts of this work he demonstrates the erroneousness of the idea that alcohol ever "saves the wear and tear of the body," or enables the drinker to resist the effects of cold, of heat, or of fatigue. Its effects on longevity are demonstrated by a valuable collection of statistical evidence. "Drunkards lose on the average about ten years of life as compared with strictly temperate men." The records of "mortality and sickness from alcohol" (Chap. VI.) are equally striking and conclusive, and the still more painful evidence collected from the annals of "insanity and crime" furnish more powerful weapons for the advocates of total abstinence. "Pauperism, accidents, and inquests," it need hardly be added, add an immense mass of testimony to the evils of the use of strong drink. In the ninth (and concluding) chapter the author replies to the various objections which have been made to the practice of "total abstinence." We feel sure that even if all his

arguments are not accepted as conclusive, the publication of such a work must have a beneficial result. We cordially recommend its perusal to every philanthropist and politician who takes an interest in one of the burning questions of modern civilisation.

A Text-book of Medicine for Students and Practitioners. By Dr. Adolf Strümpell, Professor and Director of the Medical Clinique at Erlangen. Second American Edition, translated by permission from the second and third, and thoroughly revised from the sixth German Edition, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University, &c., and Philip Coombs Knapp, A.M., M.D., Clinical Instructor in Diseases of the Nervous System, Harvard University, &c.; with editorial notes by Frederick C. Shattuck, A.M., M.D., Jackson Professor of Clinical Medicine, Harvard University, &c. With one hundred and nineteen illustrations. London: H. K. Lewis. 1893. Imperial 8vo. Pp. 1043.

In the number of this Journal for November, 1887 (Vol. LXXXIV., No. 191, third series, page 375), will be found an exhaustive review of the first American edition of Professor Strümpell's "Text-book of Medicine." This translation is already used as a text-book, or as a work of reference in some twenty-eight medical schools in America, and, in his preface to the *Sixth* German edition, the author, with pardonable pride, points out that although the fifth edition had been very large, a year's time had brought so pressing a demand for a new one that, in preparing it, he had been obliged to confine himself to the most essential improvements and additions.

Under such circumstances as these, unfavourable criticism is impossible. But, in truth, apart from some infelicitous renderings of the original German into English scattered throughout the book, we have nothing but praise for this monumental work.

The changes and additions in the edition before us are neither few nor unimportant. A mere enumeration of the more striking will show that both author and translators have successfully kept the text-book abreast of medical progress.

In the section on "Acute General Infectious Diseases," with which the volume opens, influenza now finds a place—"a disease," says Professor Strümpell, "which had almost been forgotten, when the last great epidemic (that of 1889-90) brought it prominently

to medical attention." As to the ætiology of this *pandemic* disease, as he prefers to regard it, the author believes that it depends on the infection of the body with a specific, organised, pathogenic germ, which has, however, as yet evaded discovery. He avows himself a believer in the air-borne theory of the origin of influenza, although he admits that direct contagion may also play a subordinate part in the dissemination of the malady. In the chapter (XIV.) on "Malarial Diseases" in this same section, a most interesting account of the conduct of the *Plasmodium malariæ* is given, in accordance with the researches of Laveran, Marchiafava, Celli, Golgi, and others.

In the chapters on Cholera, Diseases of the Nose and Larynx, Syringomyelia and Diabetes, several important alterations and additions have also been made.

It is only fair to the American editorial staff to mention that a number of new notes have been by them interpolated in the text within brackets throughout the volume. Among the most valuable of these notes are those in the section on Nervous Diseases, for the revision of which Dr. Knapp is responsible. His notes are denoted by the signature "K." At page 679 there is a capital account of Morvan's disease and its relations to syringomyelia. It is signed "K.," and occupies only eight and a half lines of print.

Appendix I., giving a summary of the symptoms and treatment in cases of poisoning, has been much enlarged, and now includes additional paragraphs on poisoning by zinc, iodoform, bisulphide of carbon (workers in rubber factories), coniia, and mussels (*Mytilus edulis*).

We heartily commend to the attention of our readers this great work. It is certainly one of the ablest and most comprehensive treatises on medicine which has appeared for at least a quarter of a century.

The Mineral Waters of Harrogate. By JOHN LIDDELL, M.D. Edin.; Physician to the Harrogate Royal Bath Hospital and Rawson Convalescent Home; and to the Convalescent Home of the Sunderland Infirmary. Edinburgh and London: Young J. Pentland. 1893. Pp. 62.

THIS seems to be the "making" of an excellent *brochure* on the mineral waters of Harrogate; but it is at present defective in two particulars—first, in the absence of any meteorological

tables; secondly, in the absence of a map of Harrogate and its environs. No doubt, in the opening chapter on "Harrogate as a Health Resort" allusion is made to the climate of the place, but only in general terms. Details are conspicuously wanting, which is all the more remarkable as full tables of analyses of the sulphur and chalybeate waters are given in Chapter II. on the "Chemical Composition of the Mineral Waters."

Chapter III. contains an interesting account of the action of the waters upon the body generally, while Chapter IV. presents us with a brief statement as to the therapeutics of the mineral waters and of the climate.

The author enjoys exceptional opportunities for observing the effects of a sojourn at Harrogate upon the various classes of invalids who resort thither. He writes pleasantly, and possesses in no mean degree the art of conveying reliable information in clearly expressed language. Not the least recommendation of his little book is the fact that Dr. Liddell avows that he wrote it for *members of the medical profession.*

Tooth Extraction; a Manual on the Proper Mode of Extracting Teeth. With a Table exhibiting in Parallel Columns the Names of all the Teeth, the Instruments required for their Extraction, and the most approved Methods of using Them. By JOHN GORHAM, Member of the Royal College of Surgeons, London; Fellow of the Physical Society of Guy's Hospital, &c. Fourth Edition. London: H. K. Lewis. 1893. Fcap. 8vo. Pp. 43.

THE author seems to have taken great pains in this pamphlet in describing accurately the different methods of extracting the several teeth, and has many invaluable hints for a general practitioner who has never had any previous hospital practice at this work. He seems still to have a partiality for the key, which is now practically an exploded idea amongst specialists in this branch of surgery. The author seems to have omitted any hints as to what should be the position of the patient during any operation—this being more frequently the cause of a bad extraction due to loss of the proper power which he has so fully gone into.

One operation (p. 18), that of extracting an extensively decayed lower molar by including fangs, gums, lint, and alveolus within the blades of the forceps, does not certainly conform to the present

method of picking out the fangs separately and easily by means of a fine root forceps.

Mr. Gorham's tables as to what deciduous and permanent teeth should be found together at different periods in a young mouth, should be of the greatest service to one not versed in the practical knowledge of this before.

The Transactions of the Edinburgh Obstetrical Society. Vol. XVII. Session 1891–2. Oliver & Boyd. Pp. 294. With Illustrations.

This seventeenth volume of the Edinburgh Obstetrical Society's Transactions shows the depth to which obstetrics and gynæcology are studied by the Edinburgh school.

In addition to the very able paper by Dr. Ballantyne on "Fœtal Pathology and Teratology," the most generally interesting articles will be found to be those on "Maternal Impressions," by the same author; the "Date of Impregnation," by Dr. Milne Murray; and "The Influence of Influenza upon Women," by Dr. Felkin.

Dr. Croom's paper on "Asthma Gravidarum" is most instructive.

The specialist will, in this volume, find much that is of the deepest interest.

A Treatise on Nervous and Mental Diseases, for Students and Practitioners of Medicine. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic, &c. London: H. K. Lewis. 1893. 8vo. Pp. 687.

This is an ambitious work, which justifies its aims. No important part of the subject of nervous diseases is left untouched. There is evidence throughout of large experience and wide reading, though mental diseases are dealt with too summarily for the needs of any but the general practitioner.

The book is quite up to date, as witness some plates from Professor Frazer's "Atlas of Cranial Topography," a notice of *erythromelalgia*, a chapter on *katatonia*, and one on sexual perversion, partly based on Krafft-Ebing's recently published work. Nor is the style wanting in freshness. It has so much egoism as gives it life; just so much as becomes one who knows what he is talking

about; just so much as sometimes betrays the author into carelessnesses of expression which a more timid writer would avoid. Take this sentence from the preface—"Whether Americans are more prone to nervous disease than other races, or whether it is that our democratic principles set a higher value upon the individual, his comfort and health, than is customary elsewhere, it is yet certain that Europeans, in investigating disease, regard the patient simply as its vehicle, whilst Americans go one step further, and deem the cure all-essential." This challenges criticism on many scores. Is it true that Europeans sacrifice treatment to pathology? Is it true, as implied, that cure can be arrived at without a knowledge of causation? Is it a fact that in America more value is set upon the individual life than in Europe? And where is the logical opposition between the vehicular view so deprecated and therapeutics? And finally, what other way can any disease as a whole be studied than as it affects this or that living thing, which, for the time being, is its vehicle? For practical purposes popular language is correct when it says that a man *bears* his disease as he *bears* his *age* or his *honours*. The sentence quoted is logically inconsequential and wrong in fact. How shall we construe this passage, deprecating the importance of heredity as a constant cause of neuralgia—"I do not believe, for instance, that a person has ever lived who has not had neuralgia at some time, and yet it would not be fair to say that this person could transmit neuralgia hereditarily as could a person who was constantly subject to the malady." These are rare examples of careless writing in a book which is otherwise clear in statement and good in its English.

The anatomy and physiology of the nervous system are concisely treated in the first eighty-three pages. A popular exposition of a mystery comes to grief on page 33, where it is stated that the cerebral centres "are, therefore, simply compartments of the mind, and clinical observation constantly shows that lesion of any one of these centres need not cause mental impairment." Can it be that that of which a part (or compartment) is injured need not be at least partly injured? The author evidently has second thoughts on the matter, for later on he says that "a small (cortical) lesion may seem to a superficial observer to leave the mind unimpaired, when careful examination of the patient will show that this is only seemingly so."

A short chapter on electricity tells with clearness almost all that is necessary to be known about the *technique* of electrical applica-

tions. The reaction of degeneration is discussed somewhat too briefly, and the following statement is inaccurate—"Faradic electricity is the current which flows from one or two cells, but which, by means of various mechanical devices, is interrupted constantly, and made to have more electro-motive force, or much more power of overcoming resistance than galvanism."

In dealing with localisation of brain lesions the crus cerebri is forgotten. The author clings to the useless distinction between hemiopia as a retinal defect and hemianopsia as applied to the defect in the visual field. "A left hemiopia will cause a right hemianopsia," he says, forgetting that etymologically *left hemiopia* signifies good vision on the left side. It is laid down somewhat positively that a lesion of the posterior part of the internal capsule, producing hemianæsthesia, will, if it affects vision, produce hemianopsia on the same side as the anæsthesia—a view at variance with Charcot's, as stated by Bastian, that lesions of the cerebral hemispheres producing hemianæsthesia likewise determine crossed amblyopia, and not lateral hemiopia.

The author claims to have been the first to use cerebral thermometry for diagnosis. He found that the average temperature of the left side of the head is slightly higher than that of the right; and selecting certain "stations," that the average temperature of the occipital station is less than that of the frontal and parietal ones, which are practically the same, and that the temperature of the vertex in the motor area is lowest of all. Any marked reversal of these facts in a person suffering with cerebral symptoms would be in favour of mischief in the part with increased heat. The author has by this method been able to localise new growths in the brain.

The chapters on neuralgia, progressive muscular atrophy, caisson disease, hysteria and neurasthenia are full and interesting. Now and again, on the other hand, a subject seems not to have commanded the author's interest. Cerebral abscess is treated of in a page and a half; pachymeningitis is mentioned only incidentally; the cerebral troubles of lead-poisoning are despatched in a few lines. It is not impressed upon the reader that cases of peripheral neuritis, especially alcoholic, may die rather unexpectedly, nor is any mention made of the striking loss of memory of recent events which so frequently accompanies alcoholic neuritis. In fact, the whole subject of multiple neuritis is poorly dealt with.

The author has no undue consideration for the chronic drunkard,

and objects to the maudlin sentimentality which regards his habit as a disease. With his view we have much sympathy, but not so with his statement about masturbation, that "it is a very common disease with boys, less common with girls." We are more inclined to regard the mental and physical condition brought about by chronic alcoholism, apart from gross lesions, as a disease, than the masturbation of puberty.

In the enumeration of the causes of the various nervous diseases sex is constantly mentioned. Now it seems to us that a factor in man, which is constant and essential, should not be quoted as a cause of disease. Sex is only a *cause* of this or that disease in so far as males or females are more exposed to the causes of such disease—that is to say, it is not a cause at all. Sex is not a cause of cancer of the womb or of orchitis, unless indeed we are content to take for wisdom the statement that uterine cancer cannot occur in a person without a womb, or orchitis in one without a testicle. Still less is sex a cause, even predisposing, of locomotor ataxy, unless we assume that it is in the eternal law of nature that males should, *ipso facto*, suffer more than females from syphilis or other cause of ataxic disease.

In the domain of treatment, value is attached to ergot in inflammatory conditions of the cord; in epilepsy, to borax in combination with bromide of potassium; to quinine in neuritis, neuralgia, and other conditions which may be due to, or kept up by, a malarial taint; to massage, hypnotism, and electricity, in suitable cases. Such may be said to be the highest flights of treatment, not perhaps unemulated in Europe, which this book reaches. But Professor Gray's work is none the less valuable because his experience is at variance with the exaggerated terms of his preface. It is a thoroughly practical work, which will be of use to the student, the general practitioner, and even the neurologist. It should be added that it contains one hundred and sixty-six illustrations, most of them original and all good.

Bulletin of the Harvard Medical School Association. No. 4. Boston. May, 1893.

This Bulletin, we are told, is intended to give to the Harvard graduates a brief account of certain new methods of teaching which have arisen in the various departments of the School. It also contains short papers on matters of general interest. In the

present number are six papers. The first, by Dr. Cheevers, on the "Professional Horizon," while recognising the great advances which have been made, deprecates the "unbalanced predominance of operative surgery which has destroyed all natural and harmonious proportion between operations and surgery, and between surgery and medicine;" also "the fatal facility of the habit of consultations and the narrowing spirit of specialism."

The second paper, by Prof. Bowditch, describes the interesting exhibits of the Harvard Medical School at the Chicago World's Fair.

The third paper, by Prof. Richardson, is on the "Obstetrical Department of the Harvard Medical School." This department has lately undergone great changes, chiefly in the increased amount of clinical instruction introduced. Each student is required now to attend and report on at least six cases. This seems to us in Dublin a small number, but it is only since 1883 that any personal attendance has been required in Boston.

Professor Councilman, in the next paper, describes the pathological department, which seems to be in all respects arranged on the best possible principles. A plate is given, showing the class in pathological histology at work.

Dr. Mason contributes a paper on diphtheria and scarlet fever at the Boston City Hospital. The great importance of bacteriological investigation in all doubtful cases of diphtheria, and of isolation of such cases until the diagnosis is certain, is strongly pointed out.

Finally, Dr. Harrington describes the methods adopted in the teaching of materia medica and therapeutics.

The Bulletin is magnificently printed on thick paper, and illustrated with handsome plates showing views of the laboratories and class-rooms. It cannot fail to have a great interest for old students of the celebrated Harvard School, as well as for others interested in the advance of modern medical teaching.

The Structures in the Mesosalpinx; their Normal and Pathological Anatomy. By J. W. Ballantyne, M.D., &c., and J. D. Williams, M.D. Edinburgh: Oliver & Boyd. 1893. Pp. 51.

In this work the authors give the results of their examination of 220 broad ligaments. We find here probably the most accurate and

exhaustive description that has ever been given of the anatomy of the Fallopian tubes, and of the organ of Rosenmüller. The pathological descriptions also are full of interest. The whole paper is of great value, particularly at the present time, when the so-called uterine appendages are so frequently the subject of operative interference.

The Johns Hopkins Hospital Reports. Report in Pathology. III. Baltimore: The Johns Hopkins Press. 1893. Pp. 147.

THIS number of these valuable reports contains five papers. The first, by Dr. Simon Flexner, on "Multiple Lympho-sarcomata," describes the *post-mortem* appearances in two cases, in both of which a great development of lymphoid tissue had taken place in the intestinal tract. In one of these cases the patient, a man aged twenty-seven, had suffered for several months from gastro-intestinal symptoms; in the other, a child died suddenly of cerebral hæmorrhage, having never manifested any symptoms pointing to lesion of the digestive organs. The morbid conditions are very fully and carefully described and illustrated by several good drawings. It is argued that although differences were present, the two cases were similar, and both belonged to the class of lympho-sarcomata, and had an infectious origin due to a specific micro-organism. A most extensive and elaborate review of the literature of the subject adds greatly to the value of the paper.

The second paper, by Dr. Henry J. Berkley, contains an anatomical research on the "Cerebellar Cortex of the Dog." This is, no doubt, a valuable contribution to our knowledge of this difficult subject. A good plate illustrates the text.

The third paper, by Dr. Councilman, describes a case of chronic nephritis in a cow presenting many remarkable features. It is a definite focal disease caused by a bacillus, which is found only in the foci, where it causes necrosis and intense degeneration of the epithelium. Outside the area of degeneration is a zone of granulation tissue apparently produced by proliferation of the cells of the blood-vessels, accompanied by proliferation of the epithelial cells. There is little, if any, tendency to breaking down or formation of abscess. It is considered most probable that the bacilli entered into the kidney by the urinary passages. To this paper also a beautifully executed plate is appended.

The fourth paper, by Dr. H. L. Russell, gives an experimental

investigation into bacteria in their relation to vegetable tissue. This is a paper of great importance, and one which cannot fail to interest pathologists.

The last paper, by Dr. W. J. Howard, jun., gives an analysis of 105 cases of heart hypertrophy from the autopsy records of the Johns Hopkins Hospital. These were met with in 360 autopsies made between the opening of the hospital in May, 1889, and October 1st, 1892.

The following table gives the relative frequency of the conditions producing heart hypertrophy :—

Arterio-sclerosis -	in 62 cases,	or 59·0	per cent.
Nephritis - -	„ 14 „	13·4	„
Valvular lesions -	„ 13 „	12·4	„
Adherent pericardium	„ 8 „	7·6	„
Work - -	„ 4 „	3·8	„
Tumours - -	„ 2 „	1·9	„
Aneurysm of heart-wall	„ 1 „	0·95	„
Hæmic plethora -	„ 1 „	0·95	„
	105	100·0	

The great frequency of arterio-sclerosis is strikingly shown by this table.

The Physiologist's Note-Book ; a Summary of the Present State of Physiological Science, for the Use of Students. By Alex. Hill, M.A., M.D. London : Charles Griffin & Co. 1893. Pp. 200.

The author, complaining justly of the difficulties which the student experiences from the large size to which modern physiological text-books have grown, tells us that "The object of the note-book is to assist the student in codifying his knowledge, not to diminish the need for the larger text-books, much less to take the place of lectures and laboratory work." The book differs in all respects from what are known as cram-books. Its size is such as to make it inconvenient to smuggle into the examination hall. It does not teach dogmatically, but everywhere deals with the arguments of physiology, giving the logical sequence of the points of the arguments in a form in which they are easy to follow. It is accurate and very full, and is copiously illustrated with drawings, diagrams, and tables, many of which are new and ingenious. The

pages are interleaved with blank sheets for further notes, and a running bibliography is given, referring however only to English papers and books.

Of course a book of this kind, where, as we are told, every word not essential to clearness is carefully struck out, is not an attractive one to read, and we do not think that any student would do well to start his physiological studies by reading it; but of its usefulness to those who have made some progress, and who require to refresh their memories and arrange their ideas, there can be no question. Not only to students, but to many teachers also, it will be a welcome volume, for there is scarcely a page from which useful hints may not be got.

Hypnotism, Mesmerism, and the New Witchcraft. By ERNEST HART, formerly Surgeon to the West London Hospital, and Ophthalmic Surgeon to St. Mary's Hospital, London. London: Smith, Elder & Co. 1893. Pp. 182.

WE cannot think that Mr. Hart will increase his reputation by republishing these polemical papers. With natural parental indulgence he softly calls them "somewhat aggressive;" a stronger term might have been employed. The cause of scientific truth—even of that portion of it which Mr. Hart troweth—will not be benefited by scattering "imposture," "fraud," "impostors," "scoundrels," over almost every page; or by sneering at a Society which is striving—not unsuccessfully—to study scientifically phenomena of the highest interest, which had previously been left to sciolists, charlatans, and uneducated theorists. The simpler facts of hypnotism the author is able to accept, though he more than doubts their therapeutical usefulness; but "telepathy" in any form he rejects with dogmatic cocksure-ness which is little less than ludicrous at this time of day. Phenomena accepted as genuine by men of the highest scientific eminence and logical acuteness are brushed aside as unworthy even of investigation; and to those who profess to believe in them is offered the alternative classification of "fools" or "knaves."

Mr. Hart did good work in exposing the cheats by whom Dr. Luys had been "*floué*" in Paris. Similar exposures had been made before, and will be made again. Mr. Hart does not say "*ex uno disce omnes*," but he seems to us to favour the inference that phenomena must be unreal because they are fraudulently

simulated. The fallacy is obvious. It was not uncommon in former days for soldiers anxious for discharge to simulate disease—deafness, for instance, or epilepsy. Did the medical officer, when he detected the "imposture," argue that no one had ever been genuinely deaf or epileptic? It is because others have been deaf or epileptic that the malingerer pretends to be so. It is because certain "psychic" facts, still mysterious and unexplained, and of deepest interest, exist, that "impostors" are found, and ever will be found, to simulate them. The Society for Psychic Research has done something, and will do more, to separate facts from theories, and to bring the former under natural laws. Such a work as this of Mr. Hart will give no help.

Guide to Health in Africa, with Notes on the Country and its Inhabitants. By THOMAS HEAZLE PARKE, Hon. D.C.L., Hon. F.R.C.S.I., &c., &c.; Surgeon-Major, A.M.S.; late Medical Officer to the Emin Pasha Relief Expedition. With a Preface by H. M. Stanley. London: Sampson Low, Marston & Co. 1893. Pp. 175.

MR. PARKE'S former work was so well known, and had been so favourably received, that he could have afforded to dispense with Mr. Stanley's somewhat fulsome preface. No doubt the latter felt that some return was due to the author for the praise lavished upon him in "My Personal Experiences in Equatorial Africa," and was glad of the opportunity to repay in kind. The first sixty pages of this little volume may be passed over without notice. Mr. Parke is no naturalist, and in his other book, so far as we can recollect, there is not a single thermometrical or barometrical observation, nor any addition to our knowledge of African anthropology, ethnology, fauna, or flora, so that his preliminary compilation on these subjects is of little interest or importance. The remainder will certainly be valuable to unprofessional travellers [illegible] Africa. The diseases and injuries to which they are liable are make it inco[illegible]learly described, and the suitable treatment indicated. does not teach [illegible] where they should buy their medicines is prescribed. ments of physio[illegible], when Great Britain has awakened to her duty of the arguments in [illegible]rk Continent with missionaries and Maxim guns accurate and very f[illegible]efit of the natives), this handy little book will diagrams, and tables, [illegible] wandering British philanthropist.

PART III.

SPECIAL REPORTS.

REPORT ON SURGERY.

By R. Glasgow Patteson, M.B. Univ. Dubl.; F.R.C.S.I.; Assistant Surgeon and Surgeon in charge of the Skin Department, St. Vincent's Hospital.

(*Continued from Page 137.*)

SYNOPSIS:

VII. VOLVULUS OF SIGMOID FLEXURE OF COLON.
VIII. BLOODLESS AMPUTATION AT THE HIP-JOINT.
IX. TREATMENT OF ANAL FISTULA.
X. ENTERECTOMY AND ENTEROPLEXY.

VII. VOLVULUS OF SIGMOID FLEXURE OF COLON.

Dr. Mayo, in the *Annals of Surgery*, July, 1893, reports a case of this comparatively rare form of intestinal obstruction. The patient was a female lunatic, aged fifty, who suffered from habitual constipation, but was otherwise in good health until April 1, 1893, when she was suddenly seized with vomiting and symptoms of acute obstruction of the bowels, which in spite of treatment grew worse. The abdomen became tympanitic, with quick pulse and moderate fever. On the evening of the third day, when Dr. Mayo saw her, she was lying in bed, with her knees drawn up, her face pinched, and expression anxious. Pulse 114, and temperature 100°. Abdomen exceedingly distended, especially in the centre, where there was a peculiar ovoid enlargement of great size. Under chloroform, the left hand was introduced into the rectum, and a tight constriction was felt at a depth of about eight inches just to the left of the sacral prominence. A few hours later, under ether, an incision was made in the linea alba below the umbilicus, and a huge distended viscus at once presented. Its size was so great that at first it was thought to be the greatly distended stomach, but

was recognised as the colon by its glandulæ epiploicæ and longitudinal bands. An incision was made into it, and a large quantity of gas and some fluids were evacuated, sufficient to relieve the distension and allow careful examination, which showed one complete turn of the sigmoid upon itself from left to right, and a crowding of a considerable portion of the transverse colon into the right pelvic region. The balance of the colon and the small intestines were but moderately distended. The confined part of the sigmoid flexure was dark and congested, it having furnished the greater part of the previous abdominal distension. A few Lembert sutures closed the incised bowel, and reduction with replacement was, with moderate difficulty, accomplished. As soon as the patient had recovered from the anæsthetic ten grains of calomel were administered, followed in a few hours by profuse discharge from the bowels and an uneventful recovery.

This case is of interest in connection with one brought before the Surgical Section of the Royal Academy of Medicine in Ireland during the past session by Mr. M'Ardle, and published in the *Dublin Journal of Medical Science*, February, 1893. The patient was a young lady, aged 22 years, who had been suffering from pain and complete constipation for four days. Medical treatment had failed to give relief. Operation revealed the presence of a volvulus, embracing the descending colon and the sigmoid flexure. The colon above the constriction was enormously distended—"almost to bursting"—and it was quite impossible to manipulate the bowel until a free incision had been made into it along one of the longitudinal muscular bands and an enormous quantity of gas and fluid fæces evacuated. The volvulus was then reduced with difficulty, owing to the presence of slight peritonitis and an extreme degree of œdema of the meso-colon. The bowel was then thoroughly washed out through a long tube passed up the rectum and discharging through the incision in the colon. This had a twofold action: it thoroughly disinfected the gut, and it stimulated peristalsis and contraction in the enormously-distended and almost paralysed colon. The wounds were closed in the ordinary way, and the patient made an uninterrupted recovery, being married seven weeks after the operation!

In the extremely interesting review of the operative treatment of volvulus of the sigmoid which follows, Mr. M'Ardle directs special attention to the following points:—(1) The pre-

sence of peritonitis; (2) The œdema of the meso-colon; and (3) The method of emptying the bowel. Peritonitis, he rightly insists, should be no bar to operative interference. "To say, as some do, that peritonitis contra-indicates laparotomy is, to my mind, the greatest fallacy. How many of our serious cases—uterine, ovarian, or intestinal—are conducted before the onset of peritonitis? Few, indeed, if my experience teaches anything." The œdema of the meso-colon he regards as due to the obstruction of the mesenteric veins and lymphatics, and remarks that "the separation of the layers of the meso-colon by dense exudation material explains the manner of development of those fatty and sometimes semi-gelatinous masses met with in chronic obstructions of the mesenteric veins and lymphatics." As regards emptying the bowel, the author speaks with no uncertain voice as to the advantages of free incision and full evacuation of the contents, and the case points strongly in favour of the line of incision adopted and referred to above. Puncturing and tapping are rightly dismissed as ineffectual and unsurgical.

The points we would like to emphasise in this excellent paper are:—

1. The advantages of the line of incision into the bowel following the line of the longitudinal muscular fibres was shown at the time of operation by the almost complete closure of the intestinal wound by muscular contraction without suture when the paralytic distension was succeeded by peristalsis.

2. The necessity for free opening and thorough evacuation of the contents of the bowel—gas and fæces—before attempting to reduce the volvulus.

3. The advantages of thorough flushing of the lower bowel through the incision in the gut at the time of operation by means of O'Beirne's long tube, some unirritating antiseptic being used, and the prevention thus of the continued contact of decomposing materials with the intestinal wound.

VIII. BLOODLESS AMPUTATION AT THE HIP-JOINT.

In the *Chicago Clinical Review*, February, 1893, Dr. Nicholas Senn describes a new and "bloodless" method of performing this operation. After a short historical sketch of amputation of the hip, the author proceeds to review the development of the technique of bloodless amputation at the hip-joint—tourniquets

of various form, compression of the common iliac by Davy's lever, preliminary ligation of the femoral or external iliac artery, Esmarch's elastic tourniquet, the methods of Myles, Wyeth, and Keyes—and dismissed them all as not fulfilling completely the conditions required to render the procedure bloodless. Why, it may be asked, this necessity for avoiding as far as possible this loss of blood? Dr. Senn replies :—"Statistics show that in the majority of cases hæmorrhage was the cause of the great mortality which attends this operation during the first five days, including at least 70 per cent. of the total mortality. Volkmann has called attention to the profuse parenchymatous oozing which frequently attends this operation, and which has done so much towards adding to its great mortality. . . . The femoral artery is not the only source of dangerous or fatal hæmorrhage. In three cases reported by Luning the profunda femoris artery had a high origin and caused serious hæmorrhage, and in two others the control of hæmorrhage was difficult, and all these patients died during or soon after the operation. Larrey, von Walther, and Jaeger mentioned the obturator, ischiatic, and circumflex arteries as a source of troublesome hæmorrhage. Linhart and Langenbeck lost each a case from bleeding from branches of the hypogastric artery, and Zeis one from hæmorrhage from the obturator and profunda femoris arteries." Accordingly, the case for hæmorrhage being proved, the author formulates the cardinal points in a typical amputation of the hip as follows :—(1) Disarticulation of the head and isolation of the upper part of the femur from the attached soft tissues through an external straight incision; (2) Elastic constriction of the thigh just below the pelvis until the amputation has been completed and the principal vessels have been tied; (3) Formation of the cutaneous flaps and circular sections of deep tissues below the point of constriction.

The external incision is that of Langenbeck for resection of the hip-joint, but is more extensive, being about eight inches in length, and from the top of the trochanter the point of the knife is kept in contact with the bone. The trochanteric muscular attachments are now severed close to the bone with a stout scalpel. The clearing of the digital fossa and the dividing of the external obturator tendon require extreme caution. The thigh is now flexed, strongly adducted, and rotated inwards when the capsular ligament is divided transversely at its upper

and posterior part. The remaining portion of the capsular ligament is severed, while the thigh is brought back to a position of slight flexion. After its division the thigh is rotated outwards, and the ligamentum teres divided, if possible ; if not, the head of the bone is forcibly dislocated on the dorsum ilii, and the trochanter minor and upper part of the shaft of the femur cleared by using alternately the scalpel and the periosteal elevator. The head of the bone may be displaced through the incision, and the shaft cleared completely as low down as the point of section of the soft parts. Further loss of blood is now prevented by elastic constriction applied in the following manner:—The limb is brought down in a straight line with the body, the thigh slightly flexed so as to push the upper free end of the femur forward into and beyond the wound, when a long, stout hæmostatic forceps is inserted into the wound behind the femur and on a level with the trochanter minor when in normal position ; the instrument is pushed inwards and downwards in a direction about two inches below the ramus of the ischium, and just behind the adductor muscles. An incision is made through the skin, the tunnel in the soft tissues is enlarged by dilating the blades of the forceps, and a piece of aseptic rubber tubing, three-quarters of an inch in diameter, and about three or four feet in length, is grasped with the forceps in the middle, and is drawn along the tunnel as the forceps is withdrawn. The tube is now cut in two at the point where it was grasped by the forceps, and with one half of the tube the anterior segment of the thigh is constricted sufficiently firmly to completely interrupt both the arterial and venous circulation. The posterior segment of the thigh is constricted by the remaining rubber tube, which is drawn sufficiently tight behind, when the ends of the tube are made to cross each other, and are brought forward and made to include the anterior segment, when they are again firmly drawn and tied, or held by a strong pair of forceps, above the first constrictor. As the anterior segment of the thigh contains the principal blood-vessels, this method of applying the posterior constrictor furnishes an additional security against hæmorrhage from the large vessels when divided by the circular incision. The flaps are now made. In making the anterior flap the incision is commenced at the lower end of the external incision, dividing the tissues down to the muscles, and being carried in a gentle curve across the anterior

aspect of the thigh, embracing about two-thirds of the circumference of the limb, and being finally carried up along the inside of the thigh to terminate just below the skin opening occupied by the elastic bands. The posterior flap is made in the same way, but about one-third shorter. The flaps are now reflected to the point where the muscles are to be divided, and should always include the deep fascia. Division of the muscles in a slightly conical direction at the level of the denudation of the femur, completes the operation. The vessels in the flaps are picked up and tied separately, a second ligature embracing the femoral artery and vein being applied half an inch above the first ligature—a proceeding which will hardly meet with the approval of British surgeons. In concluding Dr. Senn writes:—"The double constrictor presents many advantages in the prevention and treatment of hæmorrhage in this amputation. Slipping of the constrictors is an impossibility, and they control the hæmorrhage absolutely, while their proper use divides the wound into two halves, each of which is separately treated, thus reducing the loss of blood to a minimum. I applied this method to one case recently, and everyone present was favourably impressed with the ease with which the hæmorrhage was controlled during the amputation, and astonished at the small amount of blood lost after the removal of the constrictors." The paper is admirably illustrated, seven reproductions of photographs showing in a more graphic manner than any words the various stages of the method. We have described the method fully and almost in the author's words, believing that any plan which reduces the dangers and simplifies the technique of this formidable procedure will be hailed with joy by all operating surgeons, and will certainly command a trial.

IX. TREATMENT OF ANAL FISTULA.

In the *Revue de Chirurgie*, T. XII., No. 6, 1892, Dr. Llobet publishes a short paper with tables of comparative cases of fistula in ano—one treated by incision and scraping, the other by incision and immediate suture. This method, which was tried by Chassaignac, has given in his hands most excellent results. The patient is prepared in the usual way by a purgative the evening before, and an enema on the morning of operation. Under anæsthesia the anal region is shaved and rendered perfectly aseptic. A bivalve or Sims' speculum is

introduced into the rectum, and the mucous orifice recognised by touch or sight. A grooved sound is then carried through the fistula, piercing the mucous membrane in cases where no internal opening exists, and the whole length of the canal and any diverticula are then completely divided with a long and narrow bistoury. Then with a sharp curette all the fungous or fibrous tissue lining the wall is thoroughly scraped away, and the parts are freely irrigated with a four per cent. solution of boric acid. The wound is then carefully sutured with silver-wire, catgut, or horse hair, two to eight sutures being applied according to circumstances, and embracing all the depth of the tissues so as to obliterate the cavity. A special suture approximates the fibres of the external sphincter, and the skin wound is closed by a couple of horse-hair sutures. The rectum is now thoroughly washed out, plugged with iodoform gauze, and the bowels are confined by means of opium and suitable diet. On the seventh day a saline purgative is administered, followed by an enema, and the following day the stitches are removed.

In the table of 21 cases treated by the older method, the duration of treatment ranged from 28 to 63 days—the average period, in those who remained under treatment till cured, being 44·2 days; while, in the 18 cases treated by immediate suture, the duration ranged from 7 to 40 days, and the average was 15·3 days, showing a decided preponderance in favour of the latter method. It has often been a matter of wonder that this obvious improvement in treatment has not been more largely availed of, but it is to be hoped the statistics given above will induce surgeons to, at length, give it a trial.

X. ENTERECTOMY AND ENTEROPLEXY.

In the *Medical Week*, December 9, 1892, Mr. Mayo Robson describes a method of performing enterectomy and allied operations by means of a decalcified bone bobbin, which, he says, "as it can be rapidly performed, is easy of accomplishment, secure against leakage, and avoids the danger of subsequent contraction of the opening by securing continuity of mucous membrane through the new channel, besides being applicable to pylorectomy, pyloroplasty, gastro-enterectomy, short circuiting of bowel, enterectomy, ileo-colostomy, and cholecystenterostomy, it is thought to present such advantages as to warrant its being made known to others." The tube, which is made of decalcified bone, is shaped like a cotton-

bobbin, whence its name. Only two continuous sutures are used—one called the "marginal" or mucous, and the other, the "external" or serous—for the former fine catgut, and for the latter silk is employed. "For convenience," writes Mr. Robson, "it is best to apply the serous suture around the posterior half first, then to bring the posterior margins together with the mucous suture, after which the tube is placed in situ; the mucous suture being then completed, drawn tight and tied off, and finally the serous suture is continued around the anterior half. When the latter is drawn tight and cut off short, both sutures are completely buried out of sight, mucous membrane is continuous with mucous membrane, serosa with serosa, and the canal is completed through the tube. By the use of the second continuous suture, taking up serous membrane only about $\frac{1}{3}$ or $\frac{1}{2}$ inch from the margin of the opening, the certainty of secure union of serous surfaces is almost guaranteed, as is also the fear of extravasation of visceral contents with almost absolute certainty prevented." The procedure is simplicity itself, and can be grasped in a few seconds from a study of the diagrams with which the paper is illustrated, though it is hard to convey a clear idea of it in words. Mr. Robson reports three cases—two of his own, and one under the care of Mr. Jessop—in which the results were admirable. The first was a case of short-circuiting the bowel for malignant stricture of the ascending colon, subsequent to an enterectomy for the relief of acute obstruction of the bowel; the second, one of cholecystenterostomy for biliary fistula; and the third, enterectomy for cancer of the ascending colon. The growth was completely removed, and the cut ends of the colon directly united by means of two continuous sutures around a decalcified bone bobbin. The second case died of exhaustion at the end of a fortnight, but the autopsy showed "an entire absence of peritonitis, and the ileum and colon were found perfectly united, the opening between the two being satisfactory and patent." The other two cases made uninterrupted recoveries.

Resection of the intestine without suture is, we may take it, only the preliminary to operation without hands, yet such is the ideal procedure put before us independently by two American surgeons. In the *Medical Record*, Dec. 10, 1892, Dr. J. B. Murphy of Chicago details the features of an "anastomosis button," which obviates the necessity of suturing the intestinal coats. "A button consists of two small circular bowls. There is 'sweated' into a circular opening, 12mm. in diameter at the bottom of one

bowl, a cylinder 15mm. in length, with female screw-thread on its entire inner surface. The cylinder extends perpendicularly from the bottom of the bowl. There is an opening in the male bowl in which is 'sweated' a similar and smaller cylinder of a size to easily slip into the female cylinder. There are two brass springs soldered on either side of the inner surface of the lower end of the male cylinder, which extend almost to the top, where small points of them protrude through openings in the cylinder. These points are designed to catch the screw-thread when the male cylinder is pressed into the female cylinder, and thus hold the bowls together at any point desired. To separate them again they are simply unscrewed. A small brass ring, with a thin though not cutting edge, to which is attached a wire spring, is placed in the male bowl and retained in position, projecting one-eighth of an inch above the edge of the bowl. This is held up by the wire spring, and is there for the purpose of keeping up continuous pressure until the entire tissue between the edges of the bowl is cut off. This spring attachment is absolutely necessary only when the stomach is operated on. There are four openings, 5mm. in diameter, in the side of each bowl for the purpose of drainage. By this it will be seen we have two hemispherical bodies held together by invaginating cylinders. These hemispheres of the button are inserted in slits or ends of the viscera to be operated on. A running thread is placed around the slit in the viscus, so that when it is tied it will draw the cut edges within the clasp of the bowl. A similar running thread is applied to the slit in the viscus into which the other half of the button is inserted, and the bowls are then pressed together. The pressure atrophy at the edge of the bowl is produced by the brass ring supported by the wire spring. The opening left after the button has liberated itself is the size of the button. This differs from all previous devices in the following particulars or combinations thereof:—(1) It retains its position automatically; (2) it is entirely independent of sutures; (3) it produces a pressure atrophy and adhesion of surfaces at the line of atrophy; (4) it insures a perfect apposition of surfaces without the danger of displacement; (5) it is applicable to the lateral as well as to the end to end approximation; (6) it produces a linear cicatrix, and thus insures a minimum of contraction; and (7) in the extreme simplicity of its technique, which makes it a specially safe instrument in the hands of the every-day practitioner as well as the more dexterous specialist."

The author relates the results of numerous experiments on animals for the purpose of determining the applicability of the method to cholecystenterostomy, gastro-enterostomy, pylorectomy, end to end and lateral approximation of the bowel, and ileo-colostomy, and in all the results obtained were good. Moreover, the records of three cases of cholecystenterostomy in the human subjects are given, all of them successful. Such a procedure, by diminishing the time of the operation, must enhance the prospects of success—the whole time occupied in Dr. Murphy's last case being twenty-one minutes only.

From under the Southern Cross and from the home of revolutions comes naturally the latest idea in revolutionary surgery, under the name of "Entéroplexie." In a memoir presented to the South American International Congress of Medicine, January, 1893, Dr. Ramaugé, of Buenos Ayres, described a method he had devised of restoring the continuity of the intestine after operation without suturing the walls, believing that simplicity of detail and rapidity of execution are the essential factors in success in intestinal surgery. The divided ends of the gut are brought into apposition by means of a mechanical contrivance called the "Enteroplex." The enteroplex is made of aluminium on account of its lightness, resistance, and non-irritability. It consists of two rings with rounded edges, on the inner face of which are inserted at opposite points of one of the diameters two small projections, extending slightly beyond the level of the margin. On one of these—the female ring—the projection is hollow; while on the other—the male ring—it is provided with teeth which catch in the grooves contained in the hollow one. These teeth acting in the hollow socket serve to fix the two rings in a perfectly immovable position, leaving, however, between the two edges a space in which the walls of the intestine are caught. The intestine is fixed by a few threads of silk or catgut, which are passed through corresponding holes in the edges of the ring, and the two rings being then approximated and fastened by the clasps, the peritoneal surfaces are brought into accurate apposition and held there until firm union has taken place, and the sloughing of the portion of the intestinal walls embraced between the rings sets free the "Enteroplex." The rings are made in three sizes, corresponding to the principal variations in the diameter of the lumen of the various portions of the intestinal tract. The operation has not been so far practised on the human

subject, but the author relates several cases in which it has been performed on animals with satisfactory results. The conclusions at which he arrives are as follows:—

1. Enterorrhaphy is a tedious and difficult operation, attended with an enormous mortality.

2. Enteroplexy is an operation which is rapidly performed, is in the power of every surgeon to accomplish, and leads to rapid cicatrisation.

3. The cicatrix is linear, and of the smallest possible dimensions, so that no narrowing of the intestinal canal is likely to ensue.

4. The enteroplex is easily eliminated, its weight, shape, and size being without danger.

5. Enteroplexy is adapted to many surgical conditions—to gangrene of the intestine requiring resection, to limited wounds of the intestinal wall, or to intestinal anastomosis.

6. Experiments on animals afford remarkable results.

7. Enteroplexy fulfils all the requirements of gastro-intestinal surgery.

Without going so far as this final statement of the author, it must be admitted that these two independent but almost identical procedures open up a new and entirely unexpected field in abdominal surgery, and one that must command the attention of all surgeons interested in this branch of surgical science.

BRITISH MEDICAL SERVICE.

THE following is the official list of surgeons on probation of the medical staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—August, 1893—1. [a] Spencer, C. G., 5,523; 2. [b] Fowler, C. E. P., 5,009; 3. Goodwin, T. H. J. C., 4,985; 4. Porter, H. E. B., 4,785; 5. Keble, A. E. C., 4,551; 6. Lattey, A., 4,489; 7. Collins, D. J., 4,440; 8. Killery, St. J. B., 4,402; 9. French, H. C., 4,307; 10. Smith, W. W., 4,205; 11. Barter, W. P., 4,105; 12. Williams, E. M., 3,916; 13. M'Munn, J. R., 3,723; 14. Anderson, J. B., 3,642.

[a] Gained the Herbert Prize, Montefiore Medal and Prize of 20 guineas, and the Parkes' Memorial Bronze Medal.

[b] Gained the "De Chaumont Prize."

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Waterborne Cholera.[a] By Ernest Hart, M.D., Editor of the British Medical Journal; Chairman of the National Health Society.

(*Continued from page 150.*)

Errata.

[In the first part of this article the following misprint occurred:—Page 138, line 9 from top, for "prevalation" read "prevention."]

(b) egyptian experiences.

In 1831, 31,000 deaths from cholera are said to have occurred in Cairo, and Dr. Graves[b] mentions 150,000 as the estimate of the total mortality from that disease in the whole of Egypt in that year. Since then Egypt has been severely scourged by cholera at short intervals, but for our present purpose no reliable data are available earlier than the visitation of 1883. In that year the first cases of cholera occurred at the port of Damietta during June. The disease became prevalent there on the 22nd of that month, and before the end of the month had killed some 700 of its 30,000 inhabitants. Gradually declining in Damietta as July advanced, it invaded various towns of the Nile delta, and reached Ghizeh and Cairo by July 16. After July the disease lost its epidemic intensity, and appeared to be extinct by the end of September. According to Dr. Sandwith,[c] the physician to Kasr-el-Aini Hospital, Cairo, who has been able to collect much valuable information concerning the epidemic, 58,511 deaths from cholera occurred throughout Egypt among a population of 6,765,000. In Cairo, among a population of 371,576, there occurred 6,650 deaths; in Ghizeh, with a population of 283,083, there were 3,996 deaths; and in Damietta there were 1,927 deaths. The definite origin of the epidemic has been much disputed, though there has always seemed

[a] An Address delivered before the Forty-fourth Annual Meeting of the American Medical Association, held at Milwaukee, Wis., June 7, 1893.

[b] Dr. Graves's Clinical Lectures, 1848. Vol. I., p. 307.

[c] Paper on Cholera in Egypt, read before the Seventh International Congress of Hygiene and Demography, held in London, August, 1891.

to me to have been ample opportunity for the introduction of the specific infection into Damietta. Once started, however, the condition of Egypt was exactly such as would favour the extension of the disease.

"There can be no doubt," says Dr. Sandwith, "that Damietta in 1883 possessed all the known requisites for engendering filth disease. In addition to the predisposing causes common to the rest of Egypt, a flat alluvial soil, soaked with decomposing organic poisons, drinking water soiled by every imaginable means, heated stagnant air, an apathetic population and a poverty-stricken indifferent Government, Damietta had unfortunately at least five other dangers, which affected chiefly the natives of the most crowded and insanitary part of the town. The richer inhabitants drew their water supply from cisterns filled from the Nile at its height, but the poorer folk, living in the quarter of the town where cholera was first seen and was most rife, were entirely dependent for drinking water upon a low Nile for several weeks below sea level, and therefore extremely brackish, or upon an open canal drain which ran through the town and received the sewage of houses on its banks, and also of the public latrines attached to many of the sixty mosques in the town. These conditions prevailed every May and June, but in 1883 must be added the wholesale contamination of the Nile by the carcases of cattle which had died of bovine typhus. One Englishman says that he removed during two months more than 2,000 carcases in every stage of putrefaction, the greater number being from the Damietta branch of the Nile. The air of the town was in a very poisonous state, and was not improved by the depots of stinking salted fish (*fisikh*) arriving from the neighbouring lake of Menzaleh for the consumption of Damietta and the rest of Egypt. The last of the exciting causes special to Damietta, was the fair which immediately preceded the cholera explosion (June 13 to 20). Some 15,000 people had been allowed without any sanitary supervision to encamp on the outskirts of the town, and to overcrowd the existing 30,000 inhabitants. The wonder is, not that cholera appeared, but that any remained alive to debate its origin."

Speaking in 1884 of the water supply, Sir W. G Hunter, who was one of the Special Commissioners sent out by the English Government to inquire into and report upon the epidemic of 1883 in Egypt, remarked[a] that the larger majority of the people drink the Nile water unfiltered, and generally before it has been allowed time to deposit. "It is said that they prefer it in this condition. In Cairo the quality of the water supply is indifferent. At the waterworks there is but one settling tank, and, as it is in constant use it can never be cleaned. The large amount of mineral matter contained in Nile water while settling carries down with it no inconsiderable quantity of the organic substances held in suspension

[a] British Medical Journal, January 19, 1884, p. 91.

in the water, and must lead to rapid fouling of the tank. Filtration is effected by gravel and sand. In the Ismailia quarter—that is, the fashionable part of the city—and in the Boulaq quarter also, no attempt is made to filter the water, but it is supplied as obtained from the Nile.

Close to the intakes of the Cairo waterworks, where some slight effort it is presumed would be made to prevent pollution of the water, I have seen human and other animal excreta, fresh and stale, lying about in various directions, and men and women bathing and washing their soiled clothes in the river. This was by no means an uncommon sight. The water supplied to Alexandria is, on the contrary, of very good quality. The system, though much the same as in use in Cairo, is carried out in a much more efficient and thorough manner. Alexandria is the only town in Egypt which possesses a wholesome supply of water. The river and the soil have been polluted through countless generations, and the alluvium is almost as absorbent as a sponge. Wherever there is water, it is scarcely too much to say you may feel assured it has been fouled by man. The river is, I may say, polluted and fouled almost from its source. It is the means by which filth, garbage, and dead animals of every description are disposed of. Every town and every village situated on its banks add their quota to the fouling of the stream until at length, when it has reached its lowest level in June, it is found, as at Cairo and at Damietta, to be undergoing putrefactive changes; to present under the microscope the character of pond water rather than as a running stream, and to contain bacterioid organisms in considerable quantities." As a specimen of a quality of the water used by the villagers in Egypt, Sir W. G. Hunter quoted the following passage from a letter written on August 30, 1883, by Mr. Honman, one of the twelve medical gentlemen sent to Egypt by Her Majesty's Government for service during the epidemic, respecting Mehallet-el-Kibir—a town of 28,000 inhabitants midway between the Rosetta and Damietta branches of the Nile:—"The town has three mosques, the drain from one running through the town, quite open, and with three feet of filth at the bottom. This discharges itself into a pool of water at the back of the town, which is used by the people for domestic purposes, and as drinking water for their cattle. The other two mosques drain in a like manner into pools outside the town, and they also are used by cattle and for domestic purposes. The stench from these drains can be smelled all over the town."

In 1883 Alexandria was the only town in Egypt possessing a tolerably wholesome supply of water. That supply, however, was by no means altogether safe, and it was laid on to only some 4,000 out of the 16,000 houses in the town. Alexandria also possesses a system of underground sewers, but many of these structures were found to be in a neglected ondition in 1883. Yet this town suffered much less severely than the

the rest of Egypt, only 916 cholera deaths occurring among its 225,000 inhabitants.

During the last ten years a great stimulus has been given to sanitary reform throughout Egypt, but the task is exceptionally difficult and the obstacles are many. Speaking of a visit to Damietta in 1891, Dr. Sandwith remarks that "the existing cisterns are cleaned out and refilled every year, and a large new one built by the Government supplies the town for two months and a half. Moreover, a new circular fresh water canal has been excavated to bring Nile water from near Cairo, and the central canal drain of the town has been filled in and converted into a road. The river and the canal no longer contain dead bodies, and the local fair has been shorn to harmless dimensions."

It is unfortunate that the question of providing Cairo with a proper system of drainage is still in abeyance, the initial costliness of an efficient scheme being apparently the real cause of the delay. But there is a prospect of something being done in this matter ere long. The responsible authorities of Cairo, however, will be well advised if they put the sanitary condition of the town into a proper state without further delay, and take care to adopt the most efficient and permanent scheme for that purpose, even if it be at first a little more costly, rather than lay the foundations of future trouble by carrying out an imperfect or temporary scheme.

The water supply of the country is also still far from satisfactory, although the question how best to deal with so difficult a problem has for some time been receiving attention. The latest report of Lord Cromer, the British Consul-General for Egypt, on the administration of that country, and the progress of reform in it, is very hopeful. Dr. Rogers Pasha, who is quoted by Lord Cromer, is able to say that an extraordinary and satisfactory change has come over the spirit of the mudirs and governors. "Two mudirs," he says, "have forwarded me schemes of important sanitary legislation, while all the mudirs and governors it has been my pleasure to meet are unanimous in recognising the evils which exist, and the necessity for their being remedied."

(c) FRENCH EXPERIENCES.

In 1883 some cases of cholera occurred in Marseilles, but by a conspiracy of silence between the municipal authorities, the attendant physicians and the nurses, their existence was for the moment concealed. In June, 1884, however the disease broke out in Toulon, and a few days later cases were reported in Marseilles. On this occasion it was not practicable to secure the same secrecy as had been obtained in the previous year. The disease claimed some 30 or 40 victims daily in Toulon during the second and third weeks of July, and before it had entirely disappeared from the town, in the middle of November, it had caused

over a thousand deaths there. At the same time it steadily spread in Marseilles, and during the second week of July, the daily mortality there rose to 70 or 80. Between June 27, when the first case appeared, and October 27, when the disease finally disappeared from that town, 1,777 deaths were recorded. Marseilles again suffered in 1885, 1,039 of its inhabitants dying of cholera during the year. Toulon also lost 314 inhabitants from the disease that year. Coming to more recent times, we find that between the middle of September and the middle of November, 1892, some 90 deaths from cholera occurred in Marseilles; and another outbreak of the disease, which the local authorities again strenuously endeavoured to conceal, occurred in February, 1893, and caused nearly 100 deaths.

The sanitary condition of both Toulon and Marseilles at the time of the epidemic of 1884 and 1885 was scandalous. Reporting to the Comité Consultatif d'Hygiène Publique de France, on July 1, 1884, after an inspection of Toulon in company with Dr. Proust, Dr. Brouardel described [a] Toulon as "one of those towns where the laws of health are most imperfectly observed." He pointed out that the water, though originally derived from springs of good quality, was not free from suspicion of contamination before it reached the consumers, and he described at some length the unwholesome methods of filth disposal in vogue in the old quarters of the town, such as the general practice of casting the night soil each morning into the gutters, where, if, as was generally the case, the water was not abundant and the gradient sufficient, it pestilentially accumulated. A very similar state of affairs is disclosed by M. A. Dominique in his "Historical Study of the Cholera Epidemics at Toulon." [b]

The insanitary state of Marseilles is also notorious. In a report on the epidemic of cholera in that town in 1884, M. Guérard, the engineer of the port, pointed out that the most neglected portions of the town as regards cleanliness were those that were most fatally affected, and he especially referred to the old quarters to the north of Port Vieux and behind the Rue Cannebière. Referring to the state of Marseilles forty years ago, when in the absence of sewers the Port Vieux became a receptacle for all the liquid impurities of the town, when local wells were in general use for the water supply, and when closets were but little known, all the filth finding its way into the gutters, M. Guérard added that, with the exception of an abundant water service, the same description still held good for the old quarters.

But even at that time the water supply, though abundant, was, and is at the present day, far from satisfactory. Marseilles derives its water from four sources—the river Durance to the extent of 7,000 litres per

[a] Recueil des Travaux du Comité Consultatif d'Hygiène Publique de France. Tome IV. (1884), p. 203.

[b] Le Choléra à Toulon. Par A. Dominique. Toulon. 1885.

second, the river Huveaune to the extent of 100 litres per second, the spring of La Rose, 5 litres per second, and the Grand Puits, which supply six public fountains. The water of the Durance is brought to Marseilles by a canal and aqueduct some eighty miles in length, and as it approaches Marseilles it is exposed to a variety of contaminations. At one point it passes through some flour and other mills, turning the water wheels in its course, and having corn washed in it. At another point it passes in open conduit through a populous locality. Moreover, at its best the Durance is but a turbid river. It carries down a good deal of vegetable matter in its course, and, although its waters pass through the settling tanks on its way to Marseilles, it is not filtered before its actual distribution. Some elaborate analyses of the Durance water have recently been made by Dr. P. David, of the 15th Army Corps, and show that in its unfiltered state it is by no means an altogether satisfactory water.

It is, however, the use of the water of Huveaune which is most dangerous. That water is drawn from the river near the village of St. Marcel, and a few kilometres only below the village of La Fenne and the town of Aubagne, the inhabitants of which cast all their slops and filth into the river. In an interesting report on the cholera epidemics of 1884 and 1885, M. Guérard[a] states that nothing in the observation of these epidemics "proves that the waters distributed in the town had any appreciable influence on the mortality from cholera." But, at the same time, he points out that at La Penne and Aubagne there had been numerous cases of cholera in 1885, and adds that "the use of waters from the Huveaune for domestic wants in the town of Marseilles could not have been without influence in the development of the epidemic in that town." Moreover, he shows that "the water of the Huveaune was drunk in precisely those quarters of the town in which the epidemics of 1884 and 1885 made the greatest number of victims."

As further showing the suspicion which very properly attached to the water supply of Marseilles at the time of the epidemic of 1884, the following circumstances recorded by Dr. Proust[b] in his report of December, 1884, on the cholera epidemic of that year in France, are instructive :—

A French steamer (Ville de Palerme) left Pointe-a-Pitre on June 24, 1884, and arrived at Marseilles on July 17. It remained there from July 17 to the 24th—that is to say, during the worst days of the cholera epidemic. During its stay at Marseilles there had been no sickness on board; it was not until two days after the departure of the vessel from that port for Havre that the earliest cases of illness on board took place.

[a] Recueil des Travaux du Comité Consultatif d'Hygiène de France. Tome XVI. (1886), p. 267.

[b] Recueil des Travaux du Comité Consultatif d'Hygiène Publique de France. Tome XIV. (1884), pp. 232, 233.

Between July 26 and 29 five men on board were seized with cholera. The captain narrates that before arriving at Marseilles the steamer had taken on board a supply of water at Gibraltar on July 12, and, acting on the advice given him, there was consumed on board only the water taken at Gibraltar during the whole of the stay of his vessel at Marseilles. But on July 24—the day of the departure of the vessel from Marseilles—the Gibraltar water being almost exhausted, he had to refill his water-tanks with the Marseilles water, and that was the water consumed on board after the evening of July 24. The captain himself remarked the coincidence of the appearance of cases of sickness on board with the first use of the Marseilles water, and also that these occurrences seemed to cease at the same time that he ceased to use that water. He gave his crew the water boiled and lightly alcoholic, and after that no new case of illness occurred.

As regards the outbreak in Marseilles in October, 1892, Dr. Brouardel has declared that it was principally due to contamination of the drinking water by sewage.

Happily, both for Marseilles and for the rest of France, as well as for the safety of the health of vessels trading with Marseilles, great works are about to be commenced for the general sanitary improvement of the town. Marseilles has obtained an unenviable notoriety as a focus of cholera, and the efforts at concealment which have always been made have not tended to strengthen public confidence in the good faith of the local authorities.

In the same report from which we have taken the particulars respecting the steamship Ville de Palerme, Dr. Proust deals with the spread of cholera throughout the southern and south-western departments of France in 1884, and, after detailing the facts respecting a great number of localities where the disease prevailed, he arrives at the following general conclusions:—"1. The cholera has been imported into the towns and villages of the departments just mentioned. 2. Water has played an important part in its transmission. 3. The intensity of the epidemic has been in direct proportion to the unhealthy condition of the country. 4. The cessation of the epidemic in the localities invaded can in part be attributed to the adoption of sanitary measures and of means of disinfecting."

One of the epidemics included in Dr. Proust's interesting report is that which occurred at Yport, a little town of 1,700 inhabitants in the department of Seine-Inférieure. The facts are also given in a report [a] by that earnest sanitarian, Dr. Gilbert of Havre. It would appear that the department of the Seine-Inférieure had been already free from cholera until the disease was imported by the arrival there, on September 28, of two of the crew of the Louise-Marie from the port of Cette. This vessel

[a] Le Choléra à Yport. Par M. le Doctr. Gilbert. Revue Scientifique du Decembre, 1884.

having arrived at Cette from Newfoundland, nine of the crew shortly contracted cholera, two of the attacks terminating fatally. After this several of the crew traversed France by rail, one dying of cholera on the journey. The personal effects of the remainder were at the same time submitted to some process of disinfection by a sister of mercy. One of the men who left for Yport had suffered from a cholera attack at Cette, and on the day following his arrival (September 29) his clothes were, with the aid of his sister-in-law, wrung out in water and hung up in front of certain dwelling houses. On October 4 this sister-in-law was suffering from diarrhœa, and on her return that day from having completed the washing of these clothes at the public "fontaine" she was seized with symptoms typical of the Asiatic disease and died. Cholera subsequently extended to the filthy narrow streets and bypaths, in which low dwellings, excavated in the sloping surface and having a natural soil for a flooring, supplied the place of houses. In all there were forty-two attacks and eighteen deaths at Yport, the last case taking place about the middle of November.

A very detailed account of the cholera epidemic of 1884 in France has been written by Dr. L. H. Thoinot of Paris, and a concise abstract of it is to be found in Dr. Shakespeare's report on cholera in Europe and India.[a] Dr. Thoinot's investigations go to prove very clearly that cholera follows water-courses, and especially those of little importance, such as torrents and small streams; that water is a means of propagating cholera for both short and long distances; that the cholera manifestly develops around wells or fountains, the water of which has been contaminated by the choleraic germs; that if there exist two kinds of drinking water in a neighbourhood, one infected and the other free of all infection, the cholera will attack the neighbourhood of the first, but will spare absolutely, or notably at least, the neighbourhood of the second; and that cholera is transmitted by linen and clothing contaminated by choleraic dejections. Each of these propositions is fully borne out by the details of the epidemic of 1884. Reviewing these epidemics Dr. Shakespeare remarks that "the disease seems to have spread from place to place by means of soiled personal effects, by small watercourses which had become contaminated with choleraic discharges, or the washing therein of soiled linen, and by the movements of persons experiencing an active or a latent attack of cholera. By these means the disease reached and found a lodgment in many places in the interior of France, remote from the districts at first affected."

The department of Finistère furnishes, unfortunately, a very vivid lesson in the spread of cholera by dirt and polluted water. In that north-western corner of France the population are poor, very ignorant,

[a] Report on Cholera in Europe and India. By Edward O. Shakespeare, of Philadelphia. Washington, 1890.

and often greatly addicted to intemperance; the soil is filth-sodden and permeable, the water supplies are almost entirely derived from surface wells, imperfectly protected and readily liable to receive specific contamination, and the arrangements for filth disposal are of the most primitive and old-world character. Here, then, are to be found all the accessories needed for a widespread cholera epidemic, and here cholera has ravaged the simple folk in 1832-33, 1834-35, 1849-50, 1854-55, 1865-66 and 1885-86. Whenever cholera has visited France, Finistère or its neighbour, Morbihan has been an early and great sufferer. An exceptionably interesting report of these epidemics, dealing in great detail with that of 1885-86, has recently been written by Monsieur Henri Monod,[a] who is now Directeur de l'Assistance et de l'Hygiène Publiques, but was formerly the Prefect of Finistère. This is how he refers to the water supply of the department:—"With rare exceptions the water drunk in Finistère is that of wells; but nearly everywhere the soil is composed on the surface of very permeable calcareous sand. The drinking waters are, therefore exposed to infiltrations, to whatever flows or rests on the soil becoming impregnated with decomposing matters along the roads and at the corners of the houses. Sometimes even streams after they have passed through all sorts of filth flow directly into the wells, which are destitute of kerbs. The inhabitants know it, they see it. Treating it with indifference, they do not use the less of it, but drink philosophically a water which will make them ill only if destiny has thus ordained. Consequently, water seems to have contributed to the propagation of cholera on the one hand in disseminating germs of cholera by the streams, by the washing fountains (*les fontaines lavoirs*) by the watercourses of every description, and on the other hand, in introducing those germs into the human organism by the drinking waters. The communes which can be cited as having had the wells particularly infected are those of Douarnenez, Plouhinec, l'Ile de Sein, Guengat, Guilvinec and Quimper. Those who think that water fills, in the course of a single epidemic of cholera, the double *rôle* of carrier of morbid germs and a direct agent of their introduction, will undoubtedly derive an argument from the precise occurrences in these last two communes."

This outbreak in Finistère was also investigated officially by Dr. Proust,[b] and his opinion is exactly similar to that of M. Monod as to the very conspicuous part played by water in the dissemination of the infection. As regards Guilvinec, where, between October 1 and December 24, 1885, 71 fatal and 54 non-fatal cases of cholera occurred among a

[a] Le Choléra; Histoire d'une Epidémie. Finistère, 1885-6. Annexe aux Tomes XIX. and XX. de Recueil des Travaux du Comité Consultatif d'Hygiène Publique de France. Melun, 1892.

[b] Recueil des Traveaux du Comité Consultatif d'Hygiène Publique de France. Tome XVI. (1866), pages 68 et seq.

population of 1,968, Dr. Proust states that "almost all the villagers use, for drinking, water furnished by a tank called a fountain situated in the centre of the Quartier du Palus, a reservoir which is only a well, and by other wells at different points. This water is the infiltration through the superficial strata. The turf and the sand form a layer of not more than one metre above the impermeable granite. Hence, this water is contaminated by all kinds of organic matters, fæcal and otherwise, which cover the soil in profusion, and at the time of the epidemic by choleraic matters which it has never been customary to throw on the beach, and which, even when disinfected, were buried near the dwellings at a depth of fifty to sixty centimetres. It is to be remarked that in two or three houses where rain water is used no case of cholera was observed. But what is still more worthy of interest is the fact that near Guilvinec, small villages built on the rock have been free from the epidemic. In one of these villages there were two imported cases, but the disease did not spread. A still more striking example is that furnished by the occurrences at Léchiagat, a village which is separated from Guilvinec by a narrow arm of the sea, uncovered at low tide. In 1886 that village had no cholera, although Guilvinec was affected; and, although during that year it served as a refuge for a number of the inhabitants of Guilvinec, the disease did not spread in it. But the inhabitants of that village drink water from an irreproachable source, which they found at a distance of two kilometres. Sometimes they drink rain water, but never well water. This little village has always been free from epidemics, whilst smallpox, typhoid fever, and cholera have prevailed on different occasions at Guilvinec."

But by far the most important extension of cholera in France in 1884 was that which affected the western suburbs of Paris, and subsequently that city itself in November. A few deaths had taken place in Paris between July and October, but the first case of the more important outbreak did not occur until November 3. During the following days of that month the deaths respectively were 1, 3, 18, 14, 28, 76, 95, 96, 79, 83, 65, 70, 45, 36, 47, 28, 34, 25, 15, 19, 10, 14, 8, 3, 11, followed by a rapid daily decline.[a] Between November 3 and December 5, 946 deaths had occurred in Paris. These figures are very suggestive, even by themselves, of a sudden and temporary agency being at work, such as the contamination of the water supply, and, although the outbreak does not seem to have been officially reported upon in detail, I have excellent reasons for believing that it was due to the temporary distribution of a highly polluted water to particular districts of the city.

In 1892, Paris, more especially again in its western and north-western suburbs, was once more somewhat severely visited by cholera. On April 4

[a] Recueil des Travaux du Comité Consultatif, d'Hygiène Publique du Francs. Tome XIV. Paris, 1884.

the disease broke out in a crowded prison at Nanterre, to the west of Paris, and ere long it had caused in that institution 49 deaths out of 51 attacks. The disease soon spread through the neighbouring districts of Suresnes, Puteaux, Neuilly and Argenteuil. In May there were ten deaths, in June, 19, in July 78, in August 211, in September 535, in October 102, in November 6, and in December 16, making in all a total of 977 deaths during the year. The greater part of this mortality occurred, as already mentioned, in the suburban districts to the west and north-west of Paris, it being, in fact, late in the autumn before any considerable number of deaths took place within the city fortifications. There is a very general concensus of opinion that the consumption of Seine water was at the root of this serious outbreak, as it had been at the root of previous epidemics. A considerable portion of the Parisian water has been drawn from the Seine near Charenton, but before the intake at that place is reached the river has received at Choisy-le-Roi, Vitry, and a host of other places, the contents of numerous sewers, &c. Drinking such water is bad enough, but when it is considered that the suburban districts in the west and north-west—those districts in fact, where cholera raged last year, and where, also, it began in the epidemic of 1884—draw their water from the Seine, after it has passed through Paris and been fouled by steamer traffic, by the filth from the clothes and linen washed in its floating wash-houses, by the innumerable private sewers at Sèvres, Neuilly, and elsewhere, and by the discharge into it of the contents of the main sewers of Paris at Asnières and St. Denis, one need not wonder at the spread of cholera once introduced. Happily, the works which have been in progress for improving the water supply of Paris by the addition of pure water from the Vigne are to be completed in the spring of the present year (1893), and the suburbs are to have their supply of Seine water drawn where that river is not tainted by Paris sewage, and are also to have it filtered through sand and iron before use. The need for some drastic measures of this kind has long been apparent.

(*To be continued.*)

THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

In consequence of the insanitary condition of several of the European states, which prevents their medical men leaving home, and, following the advice of many of the most prominent scientists, both Italian and foreign, the Executive Committee of the above Congress has decided, by a large majority, to postpone the meeting till April, 1894. The exact date of the meeting will soon be fixed.

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THE PREVALENCE OF TYPHOID FEVER IN DUBLIN.

The following Report was laid before the Corporation of the City of Dublin, on Monday, August 14, 1893 :—

In the autumn of the year 1891, the increase of typhoid fever in Dublin was the subject of much comment in the public press.

In January, 1892, there appeared in the *Health Record* a paper by Dr. W. R. Graves, calling attention to some of the causes of the recent increase of typhoid fever in Dublin, and to the necessity for further investigation of the subject. This paper was published in full on January 5th in the *Daily Express*, and evoked many interesting letters on the subject. In consultation with Dr. Graves, Mr. Maunsell, proprietor of the *Daily Express*, suggested a Commission of Inquiry; and with this object Dr. Graves and Mr. Maunsell summoned a meeting of some leading citizens and medical men at the Shelbourne Hotel on January 21st. This meeting, which was an influential and representative one, was presided over by the Lord Mayor, the Right Hon. Joseph M. Meade, LL.D. Acting on a suggestion of Mr. Frederic W. Pim, then President of the Dublin Sanitary Association, it was agreed to meet the Executive Committee of that Association, at their rooms, 42 Dame-street, on that day week. This general meeting, at which the Lord Mayor again presided, selected Dr. C. J. Nixon, Professor Emerson Reynolds, F.R.S., Mr. James P. Maunsell, Mr. Thomas Drew, and Dr. Wm. R. Graves, to act, together with four members of the Council of the Dublin Sanitary Association—viz., Dr. J. W. Moore, Dr. Stewart Woodhouse, Mr. R. O'B. Furlong, and Mr. Frederic W. Pim, as a Committee of Inquiry. This Committee subsequently co-opted as members Mr. Edgar Flinn, Dr. George F. Duffey, Professor M'Weeney, and Mr. Jonathan Pim.

At the first general meeting it was decided to hold the inquiry under the auspices, and in the rooms, of the Dublin Sanitary Association; and at the next meeting (on January 28th), the Lord Mayor requested that the report should be laid before the Public Health Committee of the Corporation.

The Committee beg to submit the following Report, which was adopted by the Committee, at a meeting held at the offices of the Dublin Sanitary Association, 42 Dame-street, on the 10th November, 1892, Mr. R. O'B. Furlong in the chair. Subsequent action upon the Report was unavoidably deferred by the prolonged and serious illness of the Hon Secretary. The prevalence of Typhoid Fever in Dublin, in the interval between the above and the present date, does not come under the

purview of this Report, but is referred to in a Supplement dated June 29th, 1893 :—

1.—PREVALENCE OF TYPHOID OR ENTERIC FEVER IN DUBLIN DURING 1891.

We learn on the authority of the Registrar-General for Ireland that the deaths attributed to enteric fever in Dublin during 1891 amounted to 191, including 16 deaths of persons admitted to hospitals from localities outside the Dublin registration district, and, in addition, 48 deaths from the same disease which occurred in the suburbs included in the registration district. This number is 41 in excess of the average for the ten years, 1881–90, and gives an annual death-rate from the disease of 5·5 per 10,000 of the Dublin population; this rate is higher than that of any other of 33 large towns in the United Kingdom, except Belfast, where the rate was 5·9. The death-rate from enteric fever in London during the same period was only 1·3 per 10,000 of the population.

We learn from the same authority that the proportion of deaths to cases of the disease in hospitals was 9·4 per cent. during 1891. Assuming the mortality to be the same throughout the district, 191 deaths represent 2,022 cases of the disease, of which 1,345 presumably belong to the city proper. Only 434 of these 1,345 presumptive cases were notified in accordance with the requirements of the "Infectious Disease Notification Act" of 1889; or less than one-third of the total number of cases. (See Report by Drs. J. W. Moore and Duffey in the Appendix).

We have exnmined the evidence obtainable on the subject of the distribution of the disease, and are of opinion that the cases noted in the wealthier as well as in the poorer districts, on clay soil and on gravel, are too numerous over the greater part of the city to justify any broad generalisation, save that the lower lying portions are, in the main, those chiefly affected.

It has been pointed out that cases of typhoid fever seldom occurred in Dublin prior to the introduction of Vartry water into the city in 1868, and that within some two years after that date the same fever became increasingly prevalent in Dublin, but without necessarily implying any contamination of the abundant Vartry water supply. These facts were in evidence before the Royal Commissioners on the Sanitary State of Dublin which sat in 1879–80, and an explanation based upon the facts is contained in a Memorandum which we append, and to which we shall refer in another section of this report. (See Report of Commissioners, 1879–80, page 163, for Memorandum by Prof. Emerson Reynolds).

2.—NATURE OF THE INFECTIVE MATERIAL.

There is now no doubt that typhoid fever is caused by micro-organisms which usually enter the human body along with food or air, and multiply rapidly. These bacilli, or rod-like structures, invade the living tissues

of the persons attacked and make their way to the chief organs, the functions of which they interfere with, either directly or indirectly, by means of poisons generated during growth, causing the fever and characteristic intestinal and other symptoms of the disease in question. The excreta of typhoid patients always contain the bacilli, but these expelled organisms do not seem to be capable of reproducing the disease until they have lived for some time outside the human body, under conditions favourable to the development of their original virulence.

This noxious change seems to be most easily brought about in *much diluted* sewage, and it has been observed that the active bacilli swarm wherever such filthy water stagnates. On the other hand, these microbes do not flourish in solid heaps of excreta, but are speedily reduced in vitality, and are ultimately killed. The water-carriage system of sewerage, therefore, facilitates the development of the infective germs. It has been lately stated that in diluted sewage, rich in germs, exposed in a thin layer to sunlight for two hours, or to diffused daylight for five hours, all those germs were killed. (See Report by Professor M'Weeney).

It is evident, then, that sewage containing infective bacilli can propagate typhoid fever by direct contamination of water used for drinking purposes, or by sewer-air and emanations carrying germs to water stored in cisterns, or to liquid or solid foods. We have therefore inquired into these and related questions as affecting Dublin, under the head of—

3.—POSSIBLE MODES OF CONVEYING INFECTION.

(*a.*) WATER.—A member of this Committee has made a series of almost daily analyses of the Vartry water, as supplied from the street main at Lincoln-place, to the chemical laboratories of Trinity College, during January and February of the present year. The general results obtained prove that the water is often, and for a considerable time, of exceptionally high purity. This usual state of purity is obviously inconsistent with any constant contamination at the source of the supply. On the other hand, rapid but temporary reduction of organic purity was detected on two occasions by daily analyses. These changes were not connected with the presence of an excess of peaty matter in solution, and were probably due to the faulty action of street valves, or to similar preventable causes operating even within the area of distribution. The filtration of the water was not always satisfactory, which may be accounted for in part by the absence of suitable filtering beds on the city side of the Stillorgan reservoir. But while the water supply from the street mains proved to be very good on nearly all the occasions on which it was examined, numerous cases have been brought to our notice of contamination, after delivery, by storage in foul cisterns, which were either exposed to the atmosphere of waterclosets, or, being placed in areas, were liable to pollution by sewer-gas or by direct drainage from the higher

street level. (See Report by Dr. C. J. Nixon and Professor Emerson Reynolds in the Appendix).

(*b*.) Milk.—Several epidemics of typhoid have been distinctly traced to the use of milk from dairies in which the fluid was exposed to sources of infection; hence, some of the Dublin dairy yards were visited in order to ascertain whether they were maintained in a satisfactory condition. It appears that some of the best kept yards are situated near possible sources of contamination, such as the Hardwicke and Cork-street Fever Hospitals and the Corporation depot in Marrowbone-lane. But the greater number of the yards visited were reported to be in a very filthy condition, rendering personal cleanliness of the attendants impossible, and the use of clean vessels for the reception and storage of the milk highly improbable. It is evident that milk collected and stored under such filthy conditions as have been described to us may at any time become infected and prove a ready means of conveying typhoid and other diseases through considerable sections of the community. The Corporation rules for the management of such yards appear to be adequate for securing their maintenance in proper condition, but the official inspection must be of a most superficial and imperfect character, else the state of the yards reported to us could not exist. (See Report by Mr. Jonathan Pim).

(*c*.) Sewer-Gas.—Many cases are on record in which typhoid fever has made its appearance in institutions which were apparently in excellent sanitary condition and isolated from ordinary intercourse, but in proximity to houses where the disease existed. In such cases there is a presumption that the contagion was air-borne. (See Report by Drs. Stewart Woodhouse and Edgar Flinn). But such cases are always open to more or less suspicion of other, but undiscovered, modes of infection. There is, however, abundant evidence that the foul gases arising from sewers and sewage-soaked soil can carry with them the infective material of typhoid.

From the evidence collected for the Committee, it appears that, while ventilation of water-closet and bath waste pipes is now very general, disconnecting traps intended to prevent direct communication between the house and main drain are comparatively rare, and the scullery sinks are either untrapped or fitted with the ineffective bell or D traps; consequently sewer-gas can obtain direct entrance to such houses and convey infective bacilli to articles of food in the kitchen and larder, while the water-closets may be provided with elaborate ventilating appliances. (See Report by Mr. Drew and Dr. Graves).

Moreover, in houses unprovided with cement-covered basements, the sewer-gas and emanations from badly constructed house drains and saturated soil can rise through the ground into the atmosphere of the house.

(*d*) Infected Clothing and (*e*) Excreta of Typhoid Patients are also modes of conveying infective microbes to which we may here merely

refer without dwelling upon them. (See Reports by Drs. Stewart Woodhouse and Edgar Flinn).

4.—HOUSE DRAINS AND GENERAL SEWERAGE.

According to the Report of the Royal Commission on the Sanitary Condition of Dublin, 1879–80, the drainage of all classes of houses was then "extremely defective." It is now reported to us that "a vast number of the house drains are still in the condition described in 1879, and are saturating the basement subsoil with sewage."

In numerous instances new pipe drains have been provided during the last twelve years, but too often no real security has been gained by reason of careless laying and connection with the main sewer, absence of disconnecting traps, and ineffective arrangement of scullery sinks, so that only "a small proportion would bear testing in a thorough manner."

We have further ascertained that the drains of houses in which typhoid fever occurred during the recent epidemic in Dublin have in most cases proved faulty when properly tested.

It is not necessary to enter on the examination of some of the questions which relate to the general system of sewerage of Dublin, as we understand that the grave defects which are known to exist are to be remedied during the construction of the new main sewers by the Corporation of Dublin. (See Report by Mr. Drew and Dr. Graves).

5.—SUBSOIL WATER.

We have carefully inquired into this subject, and have obtained samples of water from wells, used and unused, in various parts of the city. Most of these samples were sewage-polluted—some to a considerable extent. In only two of these wells, both of which are deep and are constantly used, was the water found to be pure. The disused wells were proved in most instances to be full of water to within four to six feet from the surface, and necessarily overflow through the loose stones and earth at their mouths into the surrounding sewage-polluted soil. In February, 1892, after a careful survey of all the evidence obtainable, it was found that the level of subsoil water was very high. At points on the stiff clay soil this is not so; on the other hand, the basements of some houses on the clay were kept constantly moist by water which appeared to gravitate from the surface of the street. Heavy rains cause flooding and saturation of the soil—for example, near the junction of the clay with the gravel at the northern or lower end of Grafton-street. On the other hand, spring tides cause flooding of house basements in the lower area. Members of the Committee have visited cellars which have two feet deep of water in them at spring-tides, and this water is full of foul matter which impregnates the subsoil with noxious material. There is also clear proof that the disuse of pumps

since the introduction of the Vartry has, by reason of the overflow of wells supplied by springs, raised the level of the ground water in parts of Dublin—a result also contributed to by leakage of waste Vartry water. (See Report by Mr. Drew and Dr. Graves).

6.—SUBSOIL DRAINAGE.

Of this there is practically none, so far as any general system of city drainage is concerned, save such as results from leakage into the main drains through defective house junctions. But Trinity College affords an excellent example of the beneficial effects of subsoil drainage which has been systematically carried out for some years. Cases of typhoid are now very rare among the residents in the College, and the few cases that occur are probably imported; but before the subsoil drainage system was carried out several outbreaks of the disease took place.

7.—CAUSES OF DEVELOPMENT OF FEVER IN DUBLIN.

We have carefully considered the reports summarised in the foregoing paragraphs with a view to deduce a satisfactory explanation of the prevalence of typhoid fever in Dublin, and to suggest appropriate remedial measures.

We are of opinion that the facts relating to the rapid development of the disease over practically the whole city area, within two years after the introduction of the Vartry water, admit of comparatively simple interpretation. Before the period in question both house and main-drainage were admitted to be extremely bad, and the soil was necessarily charged with sewage matter; but Dublin was then dependent for water on the limited canal supply, and on wells, hence there could be little dilution of the escaped excreta either in drains or in soil. At that time cases of typhus fever were numerous, while those of enteric or typhoid fever were comparatively rare. Our recent knowledge of the infective bacillus of typhoid explains this, as the microbes are known not to flourish in concentrated sewage, although they rapidly develop in that which *is largely diluted.*

The free use of the abundant and generally pure Vartry supply changed this, as there was much greater direct dilution of sewage than before, and the number of water-closets rapidly increased, while the new drains of the latter were rarely better constructed than those of older date, consequently abundance of very dilute sewage escaped into the soil. This dilution was necessarily increased by waste Vartry water as well as by rains, and by the overflow of the numerous disused city wells, which latter became considerably polluted in process of time. The conditions were therefore soon established under which the typhoid bacilli are known to multiply freely, in drains and soil alike, and cases of typhoid fever became numerous, as the microbes had access to houses by the various "modes of conveyance" specified in Section 3 of this Report.

When the special malarial theory of the development of typhoid fever in Dublin, substantially the same as the above, was brought before the Royal Commission, 1879–80,[a] it was urged that efficient subsoil drainage should be carried out *along with* improvements in house and general sewerage, lest the disease should get a stronger hold of the city. We are not aware that much has been effected in that direction, as it is reported to us on excellent authority that the general level of ground water in Dublin has risen of late years, notwithstanding some improvement in house and main drainage, while the death-rate from typhoid very materially increased up to 1889, and is still very high. As might be anticipated, the lower lying portions of the city suffer most, and possibly the parts resting on gravel rather than on clay, as the former permits more ready infiltration of diluting water from below. But the disease has occurred over practically the whole ill-drained area, as the conditions for its propagation exist wherever badly constructed house drains are to be found which are connected with the general water-carriage system. Again, typhoid fever is more prevalent after the autumnal rains than in spring, as the soil is warmer after the summer and the conditions more favourable to the development of the bacilli. It varies somewhat in character as well as in the number of cases from season to season, as might also be expected, since variations in climatic conditions would naturally affect the development of the infective material as well as the susceptibility of persons exposed to attack.

The explanation above given of the undue prevalence of typhoid fever in Dublin appears to be consistent with all the facts within our knowledge, and has necessarily guided us in making some of the Recommendations which we now beg to submit.

RECOMMENDATIONS.

1. An efficient system of subsoil drainage should be carried out in Dublin along with the main sewerage about to be provided.

2. Efforts should be made to secure more complete returns of cases of typhoid fever in Dublin, under "The Infectious Disease Notification Act, 1889;" and all the suburban townships should put the Act in force.

3. A map or other suitable record should be prepared for each year by the Sanitary Authority of Dublin indicating every house in which typhoid fever has occurred, and such a record should be available for inspection.

4. A constant check on the general condition of the Vartry, or other water supply, should be maintained by daily analyses of samples taken at two or three points in the city. The utmost cleanliness of any pipes

[a] See Memorandum by Prof. Emerson Reynolds, page 163 of Commissioners' Report.

or tubes laid down should be secured; and means should be adopted to guard against the entrance of surface drainage through street fittings.

5. A systematic effort should be made to induce householders to guard against the use, for drinking purposes, of any water stored in cisterns in connection with water-closets, or open in any other way to sources of pollution.

6. Official registration and bi-monthly inspections, without notice, of dairy yards, should bs introduced.

7. There should be a compulsory closing of such dairy yards as may be considered by the Sanitary Authorities a danger to the public health either by—

(*a.*) Proximity to fever hospitals, or to decomposing refuse; or—

(*b.*) Continued infringement of the rules and by-laws.

8. All matters connected with house drainage should be under the direction of a single department of the Sanitary Authority, and inspections should be carried out by properly qualified officials.

9. Complaints from either the landlord, the occupier, or the tenant of a house should be attended to and reported on in writing, within six days.

10. As plans of drains for all houses about to be built must be lodged with the Sanitary Authority under the Public Health By-laws, that authority should ensure that such plans as may be approved by them shall be carried out, by examining the works and testing the drains before the houses are occupied. Inspections of new buildings, under the Public Health (Ireland) Act, 1878, or other Acts conferring sanitary powers on the Municipal Authority, should be exhaustively carried out.

11. It is desirable that compulsory inspection of houses and connecting drains should be instituted in the following cases:—

(*a*) On the occurrence in two consecutive years of cases of typhoid fever, diphtheria, cholera, or epidemic diarrhœa in more than two houses in any street, square, or place served by the same section of street sewer.

(*b*) On change of occupancy of a house, of which notification to the Sanitary Authority should be compulsory on the landlord, and of which house there has been no sanitary inspection for at least twelve months.

12. A record should be kept of all inspections of drains, of the faults found, and how such faults were remedied.

13. The water-test should be always applied to both house and connecting drains, and the connecting drains should be tested in every case in which the house drains are examined.

14. Every house should have ventilated drains with properly ventilated intercepting traps between the main sewers and house. The ventilators should be carried up the outside of the house.

15. The hopper-barge for removal of refuse should be loaded lower down the river than at present.

16. The recommendations of the Royal Commission of 1879–80, which have not yet been carried out, should at once be adopted.

17. The Dispensary Medical Officers should be supplied with simple printed instructions as to disinfection of clothes and discharges, so that they may hand them to their patients.

18. The public should be frequently made acquainted with the facilities afforded for the gratuitous disinfection by the Sanitary Authorities of their houses, clothing, and bedding.

(Signed),

THOMAS DREW.
GEORGE F. DUFFEY.
D. EDGAR FLINN.
R. O'B. FURLONG.
WM. R. GRAVES.
JAMES P. MAUNSELL.
EDMOND J. McWEENEY.
JOHN WILLIAM MOORE.
C. J. NIXON.
JONATHAN PIM.
FREDERIC W. PIM.
J. EMERSON REYNOLDS.
STEWART WOODHOUSE.

DUBLIN, *November*, 1892.

SUPPLEMENT.

We wish to supplement our report by figures, bringing the enteric fever death-rate up to date; and we think that these figures are highly instructive—

—	Deaths from Enteric Fever in City	Deaths from Enteric Fever in Suburbs	Remarks
1891 .	127	48	Wet and warm autumn.
1892 .	91	23	Dry and cold autumn.
1893 .	(First 24 weeks) 88	(First 24 weeks) 17	Wet, January and February; warm and dry, March, April and May.

It will be seen at a glance that the wet and warm autumn of 1891 appears to have increased the prevalence of enteric fever in the suburbs as well as in the city, while on the other hand in 1893 the enormous

and unprecedented number of deaths from enteric (75 in first quarter and 105 in first twenty-four weeks) have nearly all occurred in the city. The deaths occurred as follows in 1893 :—January, 33 deaths; February, 19 deaths; March, 18 deaths; April, 10 deaths; May, 17 deaths.

The Registrar-General in his quarterly return for the first quarter of 1893 says "enteric fever caused 75 deaths against 57 for the preceding quarter, 30 for the first quarter of last year, and an average of 39 for the first quarter of the years 1883–92." Nearly as many deaths occurred in January, 1893, as in the first *six months* of 1892. This excessive death-rate seems to us to be possibly due to the heavy rainfall early in this year, which came after two months of comparatively dry weather; and we believe that the large monthly death-rate since is due to the phenomenally high temperature of March, April, and May.

It seems obvious that a wet season, if it is accompanied by warm weather, is productive of a large enteric fever death-rate in both city and suburbs, as the figures in 1891 show; while a dry season, if accompanied by a high temperature, proves particularly dangerous in the water-logged portions of the city.

The year 1892 deserves special notice from us, as during this year a much smaller number of deaths occurred than the average for the previous ten years. The rainfall was very evenly distributed throughout all the year, and it was below the average in amount; 11·770 inches fell in first half of the year, and 13·874 inches during second half. The autumn of 1892 was cold, and not favourable to the development of the disease.

In 1891, 8·748 inches fell in the first half of the year, and 19·072 in the second half. It will be found on reference to the figures that enteric fever became almost an epidemic in the second half of 1891.

The death-rate from enteric fever in the city is increasing, and will probably continue to increase until something is done to diminish the pollution of the subsoil water, and to lower its level, especially in the water-logged area.

It gives us pleasure to notice that in the suburbs the death-rate from enteric fever is diminishing.

DUBLIN, *June 29th*, 1893.

APPENDIX.

Report of Typhoid Fever in Dublin for Ten Years. By DR. J. W. MOORE and DR. GEORGE F. DUFFEY.

We desire to call attention to the very unsatisfactory state of notification of infectious diseases in Dublin.

The "Infectious Disease Notification Act, 1889," came into force in the city of Dublin in March, 1890. If we take two years preceding that

event, and compare them with the years 1890 and 1891, as regards the notification of cases of enteric fever to the Corporation of Dublin, and the number of deaths from that disease registered in the Dublin Registration District, we find the following results:—

—	1888	1889	1890	1891
Deaths	168	228	185	191
Notifications	179	365	269	434

Reference to the Registrar-General's Annual Summary of Births and Deaths in Dublin for 1891, shows that, during that year, of 720 enteric fever patients treated in the principal Dublin hospitals, 68 or 9·4 per cent., died. The total number of deaths referred to enteric fever in the Dublin Registration District, during 1891, was 191, being 41 in excess of the average for the ten years 1881–1890, 6 over the number for 1890, but 37 under the number for 1889. If we assume that the death rate among the enteric cases was the same in the district at large as is was in the hospitals, namely, 9·4 per cent., we find that 191 deaths represent no fewer than 2,022 cases. But the notified cases numbered only 434.

Even if we deduct 16 deaths from enteric fever of persons admitted to hospital from without the Registration District, and in addition 48 deaths from the same disease which occurred in the suburbs included in the Registration District, we get the following results:—

Deaths from enteric fever of city residents in 1891 -	127
Notifications - - - - -	434
Assumed death-rate of enteric fever - - -	9·4
Presumptive number of cases of enteric fever -	1,345
Percentage of Notifications - - - -	31·7

Or not one-third of the cases.

Another matter connected with notification which requires adjustment at the earliest opportunity is the fact, that while the Act is in force in the city, and in the Pembroke, Drumcondra, and Blackrock Townships, the Rathmines Township and the other suburban districts have not resolved to adopt it. So long as this is the case we consider that the beneficial effects of the Act will never be secured to the inhabitants of Dublin and its suburbs. Can anything be more absurd than to have an Act of Parliament enforced on one side of a street—such as Upper Leeson-street—and not enforced on the other side?

As regards the prevalence of enteric fever in Dublin, we have learned from the Registrar-General for Ireland that in 1891 the deaths from this disease were 547 in London and 191 in Dublin (including 16 deaths of persons admitted to hospital from localities outside the Dublin Registra-

tion District). These figures give an annual death-rate of 1·3 per 10,000 of the population in London, and of 5·5 per 10,000 of the population in Dublin. The death-rate from enteric fever was, therefore, more than four times greater in Dublin than it was in London. The following extract is taken from the quarterly return of Births, Deaths, and Marriages for the last quarter of 1891. It shows that Dublin, Cork, and Belfast furnish most of the cases of typhoid fever in Ireland:—

"Owing chiefly to the prevalence of the disease in Dublin Registration District, where there were 96 fatal cases, the mortality from enteric fever was above the average, the deaths numbering 253, or 36 over the average for the fourth quarter of the five years 1886–90, and exceeding the number in each of those periods, except the last quarter of 1889, in which there were 306 deaths from this cause. The 253 deaths consist of 129 in Leinster (including 96—equal to an annual rate of 1·1 per 1,000 living—in the Dublin Registration District). The deaths from the disease in Dublin and Belfast form more than one-half of the total number for Ireland."

Sir Charles Cameron has placed in our hands a copy of a paper, prepared jointly by him and Dr. Grimshaw, on the "Distribution of Enteric Fever in the City of Dublin," up to and including the year 1887. This paper is illustrated by a map of the city, in which are marked by red dots the localities of all the deaths from enteric fever which occurred from January, 1882, to May, 1887. On this map also a line was traced, showing the boundary of the gravel-bed described by the Geological Survey as "Post-tertiary Fluvio-marine Sands, Gravel, and Clays." It was ascertained by the authors of the paper that the deaths from enteric fever on these gravel beds were at the rate of 1 in 365 of the population, while off the gravel the rate was only 1 in 531—the ratio being $1\frac{1}{2}$ deaths on the gravel to 1 death off the gravel.

Sir Charles Cameron has prepared a similar map, which shows the distribution of enteric fever cases from 1882 to 1891 inclusive. Under these circumstances we have refrained from preparing such a map ourselves. Sir Charles has also placed in our hands lists of the streets which have furnished cases of enteric fever from 1887 to 1891 inclusive, together with the number of cases in each instance. This return appears to be by no means exhaustive, as we have already shown, and its use fulness for our present purpose is much lessened by the fact that in no instance is the *number* of the house, furnishing one or more enteric fever cases, given.

Copy of Extracts of "Minutes of Evidence," Royal Sanitary Commission, '79–80. Letter from Dr. Reynolds.

"I have not been able to gather from the generally accurate newspaper reports of the evidence given before you that any official or other witness

has made special reference to one of the (to me) most evident causes of the malarious condition of Dublin—namely, the saturation of our unfortunately retentive soil by soaking from the disused wells which are to be found in large numbers thoughout the city. I, therefore, venture to draw your attention to the matter before the public sittings of the Commission close.

"In Dublin we can only too easily recognise the general insanitary condition which the Germans have long since connected with the presence of accumulations of 'Grundwasser,' and the picture has lately been completed, as I am informed, by the occurrence of some marked cases of ague.

"The important fact that rich and poor alike exhibit diminished vital power is, I believe, in evidence before the Sanitary Commission, and no cause, save one that is general in its operation, will account for a condition which has so materially exaggerated the ordinary ill effects of the close and wretched habitations of the humble, and the doubtfully sewered houses of the wealthier classes.

"I believe that another fact is also in evidence—namely, that the death rate for the two years succeeding the introduction of the Vartry water was lower than before, while the mortality has since risen steadily to an exceptionally high annual rate. This fact proves that the Vartry water was at least innocuous; and we are free to assume that the general health would have continued good had no new danger arisen. That new danger was not any material change in the water, as about 16 out of every 17 of the several hundred analyses of it that I have made since its introduction showed it to be above the standard of purity I have laid down in the 'Manual of Public Health for Ireland' (p. 222), and when out of condition the change was temporary, and due to causes that I am glad to learn will not be allowed to operate in future.

"In view of all the facts the only explanation that seems to me adequate to account for the comparatively sudden transition from a low to a high and increasing death-rate, so soon after the introduction of our generally fine water supply, is that stated at the outset—namely, the continued soakage of the soil with semi-stagnant well water. The city wells were practically closed—and most properly closed—soon after the introduction of the Vartry, but the supply from the many fine springs amongst them did not cease. The only outlet for the semi-stagnant water—known to be mixed with some sewage matter in most cases—has since been soakage through the feebly resisting well walls into the surrounding soil. Surface water, waste Vartry, and imperfect sewers have contributed their quota to the general stagnation; but these are minor causes, doubtless serving to compensate in a bad way for the very imperfect natural drainage, while behind all we have the accumulated masses of well water inevitably soaking the

soil at a rate that seems sufficient to account for the diminished healthiness of Dublin even within two years of the introduction of the Vartry supply.

"But I should not have troubled you with these observations if the recognition of well water soakage as an important factor in the determination of the malarious condition of Dublin had not seemed to be of practical importance, for two principal reasons:—

"1st. Because any sewerage system that does not provide ample subsoil drainage is likely to prove but a partial success.

"2nd. Because it is worthy of consideration whether the existing process might not be reversed with advantage, and the wells be temporarily utilised for sub-soil drainage during the construction of any new sewerage works that may be decided upon. In houses connected with the main sewers the semi-stagnant water could be disinfected and periodically pumped out. I have tried the plan in one case myself, and have already observed the good effect upon the soil."

(*To be continued.*)

DERMATOL.

G. Wicke (*Intern. klin Rundschau*) reports that he found dermatol powdered over a freshly-cauterised surface killed the pain at once. He has repeatedly verified the fact.—*Les Nouveaux Remèdes*, No. 9.

STRONTIUM BROMIDE IN CHRONIC EPILEPSY.

Dr. H. J. Berkley, Visiting Physician, City Insane Asylum, Baltimore, publishes, in the *Johns Hopkins Hospital Bulletin*, a paper advocating the use of strontium bromide in cases of epilepsy, as a drug "free from the impurities of the ordinary commercial article which render it unfit for continued use, or even poisonous in moderate doses. In his experience no ill effects followed 30 grain doses thrice daily, and no case failed to improve. No acne appeared; there was less somnolence; the patients were more cheerful; and the quarrelsome less cantankerous. Eleven bad cases were selected for experiment. In a few days all but two improved. When the strontium treatment was discontinued the number of attacks increased. In other cases, less exclusively treated, the number of fits was diminished, and the mental condition of the subjects improved. In the discussion following the paper Dr. Hind remarked that "patients almost always improve for a time under any new remedy, but the number of seizures usually increases again after a time, and the condition of the patient is not permanently improved; . . . temporarily at least the bromide of strontium has been followed by good effects."

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—George H. Kidd, M.D., F.R.C.S.I.
General Secretary—W. Thomson, F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Andrew J. Horne, F.R.C.P.I.
Sectional Secretary—F. W. Kidd, M.D.

Friday, June 23, 1893.

The President in the Chair.

Dr. Fleming, in the absence of Dr. F. W. Kidd, read the minutes of the last meeting.

Specimens exhibited.

Dr. W. J. Smyly exhibited specimens of (1) tubes, ovaries, and uterus removed for inflammation; (2) ovarian tumours.

He said the first specimen was taken from a lady whom he saw some months previously in consultation with Dr. Doyle. She suffered from hæmorrhage after a miscarriage, and she was curetted by Dr Doyle. When he (Dr. Smyly) examined her he found an enlarged uterus, which was retroverted, and on the left side there was a tumour. He also curetted her, but without any beneficial effect, and he then took her into the Rotunda. On opening the abdomen he found that both the tubes were distended with fluid. The tubes were thickened and diseased, and therefore it became necessary to remove them as well as the ovaries. The case showed that the tubes can get enormously distended without being able to diagnosticate them, and he thought it was not possible to differentiate between distended tubes and coils of intestine. The right tube was so intimately adherent to the uterus that in peeling it off the diseased structure of the uterus gave way. The same thing happened on the left side. He thereupon extirpated it, as if he stitched it up there would be considerable oozing, and the patient made an excellent recovery.

The second specimen was one of a proliferating ovarian cyst, and of a malignant nature. The vagina was of a bluish colour, and also the cervix, and he could not be certain that it was not a case of pregnancy. He told her to return in a month, but two days before the month expired he found her with a temperature of 103° and the abdomen full of free fluid. The vagina was blue and the cervix soft, and on opening the

abdomen the next day he found the tumour had opened, and that there was a very broad fleshy pedicle which he had mistaken for the lower uterine segment. She also had general peritonitis. He washed and sponged her out, and the patient made a good recovery, the wound healing by the first intention.

The third specimen was that of a dermoid. On opening the abdomen the pedicle was the first thing that presented itself, so he immediately secured it, and then tried to break down the adhesion, but failed. He then tapped the dermoid, and when he had finished enucleating it he put in a drainage-tube, and the patient made an absolutely good recovery.

The fourth specimen was one of an ordinary proliferating cyst of the ovary. The operation was an easy one, and the recovery good.

The next specimen was a myoma attached to the anterior wall of the uterus at the fundus. He opened the abdomen, put on Tait's clamp, and incised the tumour. It left a comparatively small hole in the uterus, and then he passed Martin's sutures completely under the cavity and tied them over the top. He left in a drainage-tube, and a fair amount of discharge came away, and the patient is doing well.

The last specimen was removed from a woman, aged fifty-five, who suffered from constant menorrhagia. He curetted her, and on returning to him some time ago he was astonished to find a tumour at the back of the uterus. It had the elastic feel of a myoma, and the uterus moved with it. He thought, from the age of the patient and the rapidity of the growth, that it was malignant, and that the best thing to do was to extirpate the uterus. Owing to adhesions it was a considerable time before he got the uterus separated, and he found a small cyst between the layers of the broad ligament on the left side. It took him a considerable time to control the hæmorrhage after the operation, but the patient was now doing well.

Dr. Purefoy asked as to the cause of the hæmorrhage in the first case. He would like to know whether Dr. Smyly thought the menorrhagia was due to the metritis or to the disease of the appendages.

The President inquired whether the woman had any family or abortions as an assignable cause for the distension of the tubes.

Dr. Smyly, in reply to Dr. Purefoy, said that probably both the metritis and the tubal disease caused the hæmorrhage. In reply to the President, he said the patient had had children.

Report of the Rotunda Hospital for Three Years, 1889–92.

A discussion on the Report of the Rotunda Hospital for three years—1889–92—by Dr. W. J. Smyly and Dr. Glenn was then opened.

Dr. A. J. Smith said the report was compiled with very great care and accuracy, and admirably condensed. In judging of such reports they have to deal first with the character of the cases, and, secondly, with the

morbidity; and then they had to contrast the treatment adopted by the Rotunda School with that of the Continent. He should personally congratulate Dr. Smyly on the head of mortalities. They were simply remarkable, and should satisfy every one. There was no death from puerperal fever for the last two years. Under the head of morbidity it seems an alarming thing that one woman in every nine should have a temperature of over 100·4° in the performance of a physiological function. However, he thought this was more apparent than real, as the percentage of recoveries was over 90 per cent. without any morbidity. He thought Dr. Smyly hit the nail on the head when he found that a great percentage of the high temperatures was due to the patients washing themselves during the puerperal period, and he was pleased to see that since the adoption of new methods the results have been better. He was glad to note that Dr. Smyly had gone back again to the method of washing out the uterus with antiseptics instead of with plain water. He noticed a slight change under the head of operative treatment. Dr. Smyly only employed the forceps once in 23 cases, whereas Dr. Macan employed them as often as one in 16. Dr. Smyly employed the time test—*i.e.*, if a patient was four or five hours in labour in the second stage she should be delivered by the forceps. Still, in the old times the forceps were employed twice as often, and it seemed to him as if the old primiparæ must have rather a good time of it. He thought it was rather remarkable the small number of old primiparæ in which Dr. Smyly used the forceps. There was no mention of ophthalmia neonatorum, and he would like to know what precautions were adopted as to its prevention. He thought the mortality from eclampsia was very great—6 out of 17. He did not think the treatment for that disease was really satisfactory yet. With regard to accidental hæmorrhage he thought it was a very unfortunate thing to have to treat, but in his opinion placenta prævia was a very manageable complication. He was afraid that plugging the uterus might some day turn out to be not as safe a method as they thought, and where they had a flaccid uterus it took a large amount of material.

Dr. Purefoy said he had some idea of the enormous labour and anxiety involved in the compilation of such a report, and he thought it would possibly add to its value if they could have it at the end of each year. He noticed that there were some cases of the occipito-posterior position, and he confessed that some such cases during the past few years had given him a great deal of trouble and anxiety. He would like to know as to the success of the treatment in these cases. With regard to the treatment of post-partum hæmorrhage, he dissented from the method of plugging the uterus with iodoform gauze. There was no doubt of its efficacy, but, at the same time, it was a very risky method. He preferred the perchloride of iron treatment. He thought bleeding in some cases of

eclampsia of great value, although it is opposed by some of the most reliable authorities. He felt that they had in the report a document of great value, and it proved that the time-honoured Institution was splendidly maintaining its prestige under the present management.

Dr. S. W. Thompson said he was in charge of a hospital—that of the South Dublin Union—where very little precautions were taken, and out of 960 deliveries they had not a single death from septicæmia. Of course they had no examinations to speak of, such as are practised in the Rotunda by the students. Then, as to the post-partum hæmorrhage, he never had a case out of the 960 which needed an injection, not even in his private practice. He was glad to hear that placenta prævia was not so formidable.

The President said the first thing they looked to was to the mortality of the institution. Hitherto it was believed that a Lying-in Hospital was very unsafe owing to the danger of septicæmia. Dr. Smyly has proved that a large Lying-in Hospital is the safest place, because if we look at the last year we find that not a single death occured from septic infection, even though vaginal examinations had to be made by the students. The morbidity was really a great test as to the health of the institution, and they found that the first year it was frequent, the second year less so, and very much decreased the last year. Dr. Smyly has even accredited deaths to the institution of patients who left the hospital after the ninth day, and were re-admitted again. When he was Assistant-Master the number of forceps cases were one in eight, while he now saw that in 1889–90 there were 47 cases of forceps, and that in 1890–91 they fell to 20, while in 1891–92 they rose again to 38. He could not find any variation in the number of primiparæ to account for this. He thought, therefore, that it was a useful thing to have a triennial report in order that they might compare one year with another. With regard to eclampsia, they all knew the fatality of that affection, and the high mortality seemed to him merely a coincidence, as a succession of very severe cases were often met with. His experience of post-partum hæmorrhage was that it seemed fairly frequent. With regard to plugging with iodoform gauze, he only adopted it in one case, and that was successful; the only objection is that you must have a large quantity of it with you. He thought it possibly causes coagulation of the blood in the same manner as cotton wadding. He thought that it acted, however, as a form of drainage tube, and if the patient is already exhaused, a little further discharge might kill her. He agreed with Dr. Purefoy that there was really very little pain from the perchloride of iron, but he thought the danger was that it is used too late. If they took Dr. Barnes' advice and used it early the results would be better. At the same time he could not forget cases of death which resulted from the injection of the iron. The post-mortem revealed that it had entered the sinuses and found its way to the heart.

This was especially liable to occur in cases where the woman was exhausted and had no vital energy left.

Dr. Smyly said he did not do this report single-handed. All the hard work was done by Dr. Glenn, who produced these admirable tables. As the representative of the hospital he felt thankful that the report has been received so favourably. When he first went to the hospital he found the forceps were put on very frequently, but he did not think it very scientific, so he determined not to put them on except in case of danger to the mother or child, and then he found that the necessity of putting them on was very infrequent indeed; also that the woman suffered a great deal of unnecessary pain. Then as to the plugging with iodoform gauze, he merely stated that for the last two years they plugged with the gauze, and that they had no necessity for the iron. If necessary he would have used it. He thought, however, the iron was much more dangerous. Of course the iron was antiseptic, but when it comes to clot it is very liable to become putrid, and therefore it is not absolutely safe. A great amount of gauze is not necessary either. He thought the gauze simply acted by exciting reflex action.

The Section then adjourned.

CHOLERA AND NITRITES.

In the *Gazette Médicale de Paris* of 1st July appears a notice of a paper by Professors Emmerick and Tsuboi, of Munich, devoted to showing that the symptoms and virulence of Asiatic cholera are due to the nitrites produced by the specific bacillus. They ascertained that 50 mgrms. of sodium nitrite, introduced into the stomach or injected beneath the skin, was rapidly fatal to guinea-pigs. Rabbits died in one hour after administration of 20 cgrms. From 0·3 to 1 grm. introduced into the stomach killed dogs with symptoms which offer "a certain similarity" to those of cholera. In the human subject 0·5 to 0·6 grm. swallowed rapidly produced choleraic symptoms; and Dr. Atkinson is cited in evidence of such result having followed the ingestion of 0·2 grm. In one point the conformity of the two intoxications fails—the discharges do not, in the case of nitrite, possess the rice-water appearance characteristic of cholera. This is explained by the fact that the nitrites, directly administered, are absorbed by the stomach and do not reach the intestine. It is noted that in nitrite poisoning hæmoglobin appears in the blood; and this has also been observed in cases of guinea-pigs dying of Asiatic cholera, but not in the same animals killed in normal condition. It has been long known that the cholera bacillus possesses in a high degree the property of producing nitrous acid from nitrates, and even from ammonium carbonate.

SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, August 12, 1893.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	July 22	July 29	Aug. 5	Aug. 12		July 22	July 29	Aug. 5	Aug. 12
Armagh -	21·0	14·0	14·0	14·0	Limerick -	25·3	18·2	16·8	15·4
Belfast -	29·7	28·9	29·1	28·3	Lisburn -	12·8	21·3	25·7	0·0
Cork -	17·3	17·3	11·8	18·7	Londonderry	6·3	14·1	18·8	33·0
Drogheda	30·7	4·4	30·7	30·7	Lurgan -	27·4	18·2	4·6	18·2
Dublin -	29·4	28·5	27·7	25·8	Newry -	36·2	12·1	12·1	0·0
Dundalk -	8·4	25·1	0·0	4·2	Sligo -	0·0	30·5	20·3	10·2
Galway -	15·1	15·1	18·9	3·8	Waterford -	37·5	42·5	27·5	30·0
Kilkenny	47·2	9·4	37·8	9·4	Wexford -	27·1	22·6	27·1	45·2

In the week ending Saturday, July 22, 1893, the mortality in thirty-three large English towns, including London (in which the rate was 22·5), was equal to an average annual death-rate of 25·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·8 per 1,000. In Glasgow the rate was 23·0, and in Edinburgh it was 19·6.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 25·9 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 7·1 per 1,000, the rates varying from 0·0 in Galway, Lisburn, Drogheda, and Sligo to 17·5 in Waterford—the 15 deaths from all causes registered in this last-named district comprising 5 from measles (being 1 under the number from that disease registered in Waterford during the preceding week), 1 from diphtheria, and 1 from

diarrhœa. Among the 137 deaths from all causes registered in Belfast are 3 from measles, 5 from whooping-cough, 1 from diphtheria, and 47 from diarrhœa. The 25 deaths in Cork comprise 1 from enteric fever and 3 from diarrhœa. The 9 deaths in Newry comprise 3 from diarrhœa.

In the Dublin Registration District the registered births amounted to 180—99 boys and 81 girls; and the registered deaths to 203—98 males and 105 females.

The deaths, which are 55 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 30·3 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 29·4 per 1,000. During the first twenty-nine weeks of the current year the death-rate averaged 27·2, and was 2·0 under the mean rate in the corresponding period of the ten years 1883–1892.

Fifty-five deaths from zymotic diseases were registered, being 9 over the number for the preceding week, and 32 in excess of the average for the 29th week of the last ten years. They comprised 2 from measles, 3 from influenza and its complications, 2 from whooping-cough, 1 from diphtheria, 4 from enteric fever, 35 from diarrhœa (against an average of 6 for the corresponding week of the last ten years), and 1 from dysentery. Thirty-two of the 35 deaths from diarrhœa were of children under 5 years of age, 24 being infants under 1 year old.

The number of cases of enteric fever admitted to hospital was 7, being 4 under the admissions for the preceding week, and 1 under the number for the week ended July 8. Seven enteric fever patients were discharged, 1 died, and 32 remained under treatment on Saturday, being 1 under the number in hospital on Saturday, July 15.

Only 4 cases of scarlatina were admitted to hospital, being 4 under the admissions for the preceding week, and 5 under the number for the week ended July 8: 6 scarlatina patients were discharged, and 51 remained under treatment on Saturday, being 2 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 8 cases of measles, but no cases of typhus were received: 11 cases of measles and 5 of typhus remained under treatment in hospital on Saturday.

Twenty-seven deaths from diseases of the respiratory system were registered, being 6 in excess of the average for the corresponding week of the last ten years, and 3 over the number for the week ended July 15. They comprised 11 from bronchitis, 9 from pneumonia or inflammation of the lungs, and 4 from croup.

In the week ending Saturday, July 29, the mortality in thirty-three large English towns, including London (in which the rate was 21·0),

was equal to an average annual death-rate of 22·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·1 per 1,000. In Glasgow the rate was 20·6, and in Edinburgh it was 14·4.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·6 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 6·7 per 1,000, the rates varying from 0·0 in seven of the districts to 12·6 in Dundalk—the 6 deaths from all causes registered in that district comprising 3 from dysentery. Among the 147 deaths from all causes registered in Belfast[a] are 6 from measles, 2 from scarlatina, 5 from whooping-cough, 1 from simple continued fever, 4 from enteric fever, and 37 from diarrhœa. The 25 deaths in Cork comprise 1 from scarlatina and 3 from diarrhœa, and the 17 deaths for Waterford comprise 3 from measles (being 2 under the number from that disease registered in Waterford during the preceding week), 1 from enteric fever, and 1 from diarrhœa. The Registrar of Belfast No. 9 District makes reference to the prevalence of English cholera in his district, and the Assistant-Registrar of Dundalk refers to the presence of dysentery in Dundalk Workhouse.

In the Dublin Registration District the registered births amounted to 193—87 boys and 106 girls; and the registered deaths to 196—103 males and 93 females.

The deaths, which are 45 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·2 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 28·5 per 1,000. During the first thirty weeks of the current year the death-rate averaged 27·3, and was 1·7 under the mean rate in the corresponding period of the ten years 1883-1892.

Fifty-four deaths from zymotic diseases were registered, being 34 in excess of the average for the 30th week of the last ten years, but 1 under the number for the week ended July 22. They comprised 1 from measles, 2 from influenza and its complications, 4 from whooping-cough, 2 from diphtheria, 1 from enteric fever, 35 from diarrhœa (against an average of 5 for the corresponding week of the last ten years), and 1 from erysipelas. Thirty of the 35 deaths from diarrhœa were of children under 5 years of age, 26 being infants under 1 year old.

Nine cases of enteric fever were admitted to hospital, being 2 over the admissions for the preceding week, but 2 under the number for the week ended July 15. Two enteric fever patients were discharged, and

[a] The death-rate in Belfast for the week ended 22nd July was understated in the Return for that week, 14 deaths having been accidentally omitted from the Tables.

39 remained under treatment on Saturday, being 7 over the number in hospital on Saturday, July 22.

Six cases of scarlatina were admitted to hospital, being 2 in excess of the admissions for the preceding week, but 2 under the number for the week ended July 15. Nine scarlatina patients were discharged, and 48 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

The hospital admissions for the week included, also, 6 cases of measles, but no cases of typhus were received: 14 cases of measles and 2 of typhus remained under treatment in hospital on Saturday.

Twenty deaths from diseases of the respiratory system were registered, being 1 in excess of the average for the corresponding week of the last ten years, but 7 below the number for the week ended July 22. They comprised 13 from bronchitis and 5 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 5, the mortality in thirty-three large English towns, including London (in which the rate was 20·8), was equal to an average annual death-rate of 21·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·4 per 1,000. Both in Glasgow and in Edinburgh the rate was also 19·4.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 24·9 per 1,000 of the population, based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 6·6 per 1,000, the rates varying from 0·0 in Dundalk, Wexford, and Lurgan, to 11·0 in Belfast—the 148 deaths from all causes registered in the last-named district comprising 10 from measles, 3 from scarlatina, 7 from whooping-cough, 1 from diphtheria, and 35 from diarrhœa. Among the 11 deaths from all causes registered in Waterford are 2 from measles, 1 from diphtheria, and 1 from diarrhœa. The 8 deaths in Kilkenny comprise 1 from scarlatina and 1 from simple continued fever.

In the Dublin Registration District the registered births during the week amounted to 166—77 boys and 89 girls; and the registered deaths to 194—98 males and 96 females.

The deaths, which are 56 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·9 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 27·7 per 1,000. During the first thirty-one weeks of the current year the death-rate averaged 27·3, and was 1·4 under the mean rate in the corresponding period of the ten years 1883–1892.

Fifty-four deaths from zymotic diseases were registered, being equal

to the number for the preceding week, and 33 over the average for the 31st week of the last ten years. They comprised 5 from measles, 1 from scarlet fever (scarlatina), 2 from influenza and its complications, 4 from whooping-cough, 2 from diphtheria, 1 from ill-defined fever, 1 from enteric fever, 5 from simple cholera and choleraic diarrhœa, 26 from diarrhœa (being 9 under the number from that cause in the preceding week, but 20 over the average for the 31st week of the last ten years), 1 from dysentery, and 2 from erysipelas. Twenty-two of the 26 deaths from diarrhœa were of children under 5 years of age, including 20 infants under 1 year old.

Twenty-three cases of enteric fever were admitted to hospital against 9 admissions for the preceding week; 2 enteric fever patients were discharged, and 60 remained under treatment on Saturday, being 21 over the number in hospital on Saturday, July 29.

Six cases of scarlatina were admitted to hospital, being equal to the admissions for the preceding week: 8 patients were discharged, 1 died, and 45 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had fallen from 27 for the week ended July 22 to 20 for the following week, further declined to 13, or 3 under the average for the corresponding week of the last ten years. They comprised 9 from bronchitis and 2 from pneumonia or inflammation of the lungs.

In the week ending Saturday, August 12, the mortality in thirty-three large English towns, including London (in which the rate was 19·6), was equal to an average annual death-rate of 20·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·7 per 1,000. In Glasgow the rate was 21·2, and in Edinburgh it was 16·5.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·3 per 1,000 of the population, according to the Census of 1891.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 6·4 per 1,000, the rates varying from 0·0 in nine of the districts to 10·6 in Belfast—the 144 deaths from all causes registered in that district comprising 6 from measles, 7 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 36 from diarrhœa. Among the 27 deaths from all causes registered in Cork are 1 from diphtheria, 1 from enteric fever, and 6 from diarrhœa. The 11 deaths in Limerick comprise 1 from typhus and 1 from diarrhœa. The 21 deaths in Londonderry comprise 2 from measles and 1 from whooping-cough.

In the Dublin Registration District the registered births amounted to

178—91 boys and 87 girls; and the registered deaths to 175—89 males and 86 females.

The deaths, which are 22 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·1 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 25·8 per 1,000. During the first thirty-two weeks of the current year the death-rate averaged 27·3, and was 1·2 under the mean rate in the corresponding period of the ten years 1883–1892.

The number of deaths from zymotic diseases registered was 52, being 2 under the number for the preceding week, but 28 over the average for the 32nd week of the last ten years. The 52 deaths comprise 1 from measles, 1 from influenza, 5 from whooping-cough, 5 from enteric fever, 4 from simple cholera and choleraic diarrhœa, 30 from diarrhœa (being 4 over the number from that cause in the preceding week, and 21 in excess of the average for the 32nd week of the last ten years), and 1 from erysipelas. All the deaths from diarrhœa occurred among children under 5 years of age, 28 being of infants under 1 year old.

The number of cases of enteric fever admitted to hospital was 19, being a decline of 4 as compared with the admissions for the preceding week, but 10 over the number for the week ended July 29. Five enteric fever patients were discharged, 1 died, and 73 remained under treatment on Saturday, being 13 over the number in hospital at the close of the preceding week.

Nine cases of scarlatina were admitted to hospital, being 3 over the admissions for the preceding week: 3 patients were discharged, and 51 remained under treatment on Saturday, being 6 over the number in hospital on Saturday, August 5.

The hospital admissions for the week included, also, 5 cases of measles and 1 case of typhus: 12 cases of the former and 1 case of the latter disease remained under treatment in hospital on Saturday.

Only 12 deaths from diseases of the respiratory system were registered, being 6 under the average for the corresponding week of the last ten years, and 1 under the low number for the week ended August 5. They comprised 7 from bronchitis and 3 from pneumonia or inflammation of the lungs.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of July, 1893.

Mean Height of Barometer, - - -	29·896 inches.
Maximal Height of Barometer (on 27th, at 9 p.m.), -	30·234 „
Minimal Height of Barometer (on 19th, at 7 15 p.m.),	29·429 „
Mean Dry-bulb Temperature, - - -	60·5°.
Mean Wet-bulb Temperature, - - -	56·7°.
Mean Dew-point Temperature, - - -	53·5°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·410 inch.
Mean Humidity, - - - - -	78·5 per cent.
Highest Temperature in Shade (on 23rd), - -	74·5°.
Lowest Temperature in Shade (on 22nd), - -	50·0°.
Lowest Temperature on Grass (Radiation) (on 21st and 22nd) - - - - -	44·8°.
Mean Amount of Cloud, - - - -	62·8 per cent.
Rainfall (on 12 days), - - - -	2·042 inches.
Greatest Daily Rainfall (on 15th), - - -	·871 inch.
General Directions of Wind, - - -	W., N.W., N.E.

Remarks.

A changeable, rather showery, but warm month, of high mean temperature and almost average rainfall, with a decided prevalence of north-easterly and north-westerly winds.

In Dublin the arithmetical mean temperature (61·6°) was decidedly above the average (60·6°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 60·5°. In the twenty-eight years ending with 1892, July was coldest in 1879 (the "cold year") (M. T. = 57·2°). It was warmest in 1887 (M. T. = 63·7°), and in 1868 (the "warm year") (M. T. = 63·5°). In 1886 the M. T. was 61·0°; in 1888 it was as low as 57·3°; in 1889 it was 58·7°; in 1890, 58·1°; in 1891, 59·0°; and in 1892, 57·8°. From this, July, 1887 proves to have been the warmest since the present records commenced, whilst July, 1879, was the coldest. In only 2 years since 1864 was July colder than in the year 1892.

The mean height of the barometer was 29·896 inches, or ·019 inch below the corrected average value for July—namely, 29·915 inches. The mercury marked 30·234 inches at 9 p.m. of the 27th, and fell to 29·429 inches at 7 15 p.m. of the 19th. The observed range of atmospherical pressure was, therefore, 0·805 inch—that is, a little more than eight-tenths of an inch.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 60·5°, or 0·6° above the value

for June, 1893. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·465), the value was 61·1°, or 0·9° above the average mean temperature for July, calculated in the same way, in the twenty-five years, 1865–89, inclusive (60·2°). The arithmetical mean of the maximal and minimal readings was 61·6°, compared with a twenty-five years' average of 60·6°. On the 23rd the thermometer in the screen rose to 74·5°—wind, S.W.; on the 22nd the temperature fell to 50·0°—wind, W.N.W. The minimum on the grass was 44·8° on the 21st and again on the 22nd.

The rainfall was 2·042 inches, distributed over 14 days. The average rainfall for July in the twenty-five years, 1865–89, inclusive, was 2·420 inches, and the average number of rainy days was 17·2. The rainfall, therefore, was considerably below the average, while the rainy days were also below it. In 1880 the rainfall in July was very large—6·087 inches on 24 days; in 1871 also 4·391 inches fell on 28 days. On the other hand, in 1870, only ·539 of an inch was measured on 8 days; in 1869 the fall was only ·739 of an inch on 9 days; and in 1868 only ·741 of an inch fell on but 5 days. In 1892, 1·952 inches fell on 12 days.

High winds were noted on 9 days, but did not attain the force of a gale on any occasion. Temperature reached or exceeded 70° in the screen on 8 days. In July, 1887, temperature reached or exceeded 70° in the screen on no fewer than 17 days. In July, 1888, the maximum was only 68·7°. In July, 1891, maxima of 70° were reached on only 3 days, and in July, 1892, on only 2 days. Severe thunderstorms occurred on the 12th, and distant thunder was heard on the 13th.

Saturday, the 1st, was very fine and warm, with beautiful cirro-cumuli travelling from S.

Warm and generally favourable weather held during the week ended Saturday, the 8th. In parts of England severe thunderstorms and heavy rains were felt in the beginning—on Sunday and Monday in the N. and N.E. as well as in the North Midland Counties; on Tuesday, in the S.W. and S. of that country and in the English Channel. On Saturday electrical disturbances were again prevalent. On Monday the rainfall was 1·38 inches at York and 1·8 inches at Stoke-on-Trent; on Tuesday 2·05 inches of rain fell at Prawle Point in Devonshire, 1·15 inches at Jersey, ·91 inch at Hurst Castle, in Hants, and ·57 inch at Dungeness in Kent. The distribution of atmospherical pressure was irregular and shifting until Thursday, when the barometer began to give way steadily in the west, and freshening S.E. and S. winds sprang up on the Irish coasts, with heavy rain at Valentia Island (·68 inch to 8 a.m. of Friday). The heat in England was very great on Sunday, when the thermometer rose to 83° at Oxford, 84° in London and at Loughborough, and 85° at Cambridge; and also on Thursday, when the maxima were 81° at Loughborough, 83° at Oxford, 84° in London, and 86° at Cambridge. On Friday the thermometer rose to 90° at Cambridge, 88° at Lough-

borough, and 87° in London. At 8 a.m. of Saturday temperature was 80° in London and 79° at Cambridge, and the thermometer subsequently rose to 87° in London, 92° at Cambridge, and 96° locally at Elsing in Norfolk. In Ireland, the highest readings were about 12° to 15° lower—75° being touched at Belmullet, Co. Mayo, on Wednesday. In Dublin the maximum exceeded 70° on five days, the highest reading of all being 71·8 on Monday and Saturday. The minimum in the screen was 54·2° on Thursday. The mean height of the barometer was 29·960 inches, pressure falling from 30·201 inches at 9 a.m. of Monday (wind, N.E.) to 29·591 inches at 9 p.m. of Saturday (wind, S.E.). The corrected mean temperature was 63·2°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 62·8°. The rainfall was ·187 inch on one day—·184 inch of the amount fell on the morning of Sunday, July 9. The prevailing winds were first N.E., afterwards S.E.

Very unsettled, rainy, thundery weather held during the greater part of the week ended Saturday, the 15th, and temperature showed a decided falling off compared with the previous sennight. At 8 a.m. of Sunday a depression lay over the British Islands, its centre stretching from Ulster to the Lowlands of Scotland. It caused heavy rains in many places—2·81 inches being measured at Malin Head on Monday morning. In Dublin rain fell in torrents from 11 to 11·30 a.m. of Sunday, and on this day as well as on Monday thunderstorms occurred over the greater part of England. On Tuesday a new depression appeared off the S.E. of Ireland, whence it travelled slowly eastwards and north-eastwards to the Kattegat, which it reached on Friday morning. This system was accompanied by severe thunderstorms in many places. On Wednesday two distinct storms passed over Dublin—the second causing torrents of rain (·550 inch) in an hour (3 15 to 4 15 p.m.). At the Ordnance Survey Office, Phœnix Park, the rainfall on this day was 1·120 inches. Next day also there were heavy thundershowers near this city. Friday proved cloudy and cool, but rainless. On Saturday, however, showers again set in, as a new and large but shallow depression advanced over our northern coasts. In Dublin the mean height of the barometer was 29·768 inches, pressure ranging from 29·532 inches at 9 a.m. of Sunday (wind, W.) to 30·019 inches at 9 p.m. of Friday (wind, N.). The corrected mean temperature was 58·0°, the mean dry bulb readings at 9 a.m. and 9 p.m. being 58·6°. On Wednesday temperature rose to 67·9° in the screen, on Friday it fell to 51·8°. The rainfall measured 1·389 inches, on five days, ·871 inch being registered on Wednesday and ·349 inch on Sunday. The wind was variable—S., N.E., N., and W. being the predominant directions.

Changeable, showery, but withal favourable weather held throughout the week ending Saturday, the 22nd. The general distribution of atmospherical pressure was cyclonic in and near the British Isles—primary

systems of some depth passing eastwards across the North of Scotland, while numerous secondary systems brought rain and squalls to the southern half of the United Kingdom also. Owing to the amount of cloud and to the freshness of the S.W. to N.W. winds which prevailed, temperature never became very high and seldom exceeded 70° even in the S.E. and centre of England. On the Continent, when the barometer was higher and conditions were at times anticyclonic, much warmer weather was experienced—at least towards the close of the week. Thus on Thursday the thermometer rose in the shade to 82° in Paris and 88° in Berlin, while the maximum on this day in London was only 68°. At 8 a.m. of Friday temperature was as high as 72° at Stockholm. In Dublin the extremes of temperature for the week occurred on Saturday —the minimum being 50·0° and the maximum 68·9°. The mean height of the barometer in this city was 29·788 inches, pressure ranging from 30·031 inches at 9 p.m. of Monday (wind, N.N.W.) to 29·429 inches at 7·15 p.m. of Wednesday (wind, W.), from which low value it again increased to 30·037 inches at 9 p.m. of Saturday (wind, W.S.W.). The corrected mean temperature was 59·9°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 59·1°. The rainfall amounted to ·350 inch on five days—·161 inch being registered on Tuesday. The prevailing winds were westerly (S.W. and N.W.).

While changeable and far from settled, the weather was chiefly fine and dry in the period ended Saturday, the 29th. The general distribution of pressure was cyclonic in the North, anticyclonic in France and Germany, as well as in the British Islands on Thursday, the 27th, when an area of high pressure passed eastwards across Ireland to England. The fine, quiet weather accompanying this system was of short duration, and on Friday a fresh depression appeared off the N.W. of Scotland, causing clouds to increase and a shift of wind to S.W., from which point it freshened at some stations. Before the anticyclonic period thunderstorms occurred very generally over the midland, eastern, and southeastern parts of England on Wednesday, but the attendant rainfall was not large, In Manchester, however, ·810 inch fell. Showers fell in many places on the day named, and with the advent of northerly winds and a clearing sky temperature fell fast in the succeeding night. In Dublin the mean height of the barometer was 30·005 inches—pressure ranging between 29·747 inches at 9 p.m. of Monday (wind, W.) and 30·234 inches at 9 p.m. of Thursday (wind N.). The corrected mean temperature was 61·9°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 61·3°. On Sunday the thermometer rose to 74·5° in the screen; on Thursday it fell to 50·2° The rainfall amounted to ·063 inch, of which ·058 inch was measured on Saturday. The prevalent winds were between W. and N.

Sunday, the 30th, was bright and fair in Dublin, but heavy showers

fell in Edinburgh and thunderstorms occurred along the east coast of England. Monday, the 31st, was changeable and showery in many places.

The rainfall in Dublin during the seven months ending July 31st amounted to 11·666 inches on 92 days, compared with 13·722 inches on 109 days during the corresponding period in 1892, 10·935 inches on 92 days in 1891, 15·587 inches on 118 days in 1890, 13·146 inches on 112 days in 1889, 15·994 inches on 109 days in 1888, 7·935 inches on 80 days in 1887, and a twenty-five years' average of 14·733 inches on 112·6 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in July was 1·290 inches on 15 days, compared with 2·925 inches on only 10 days in 1892, 1·325 inches on 18 days in 1891, and 1·489 inches, distributed over 18 days, in 1890. Of the total rainfall ·360 inch fell on the 9th and ·330 inch on the 13th. The total fall since January 1 has been 13·066 inches on 90 days, compared with 16·708 inches on 90 days in 1892.

At Cloneevin, Killiney, Co. Dublin, the rainfall in July was 1·36 inches on 17 days, compared with an eight years' average of 1·864 inches on 15 days. On the 13th the rainfall was ·26 inch. Since January 1, 1893, 11·05 inches of rain have fallen at this station (Cloneevin).

COLD BATHS AND LEUCOCYTES IN ENTERIC FEVER.

We learn from the *Johns Hopkins Hospital Bulletin* that Professor Osler has been following up the suggestion of Professor Winternitz, of Vienna, that the beneficial effects of cold baths in enteric and other exanthematous fevers are due to the influence of cold in promoting leucocytosis and consequent destruction of pathogenic organisms. Professor Osler counted the leucocytes before and after twenty-minute baths at 70° F. in twenty cases of enteric fever, one case of pneumonia, and in two healthy persons. Of the twenty enteric observations the number of the leucocytes had increased after the baths in eighteen, and in two there was a slight diminution. In the case of acute pneumonia there was little change. In the first experiment on the healthy individual there was a slight increase of about 20 per cent. fifteen minutes after a twenty-9 a.m. and the subject being warm and red and not shivering. In the in the screen, on Frimmediately after the bath, the subject being blue inches, on five days, ·aber of leucocytes had quadrupled. Dr. Osler sus-inch on Sunday. The ı is rather a local than a general condition; that predominant directions. ·essing the peripheral circulation produces accu-

Changeable, showery, b the small peripheral vessels and capillaries. the week ending Saturday, f observations with a view to deciding the spherical pressure was cycl

PERISCOPE.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The following gentlemen, having passed the requisite examination, have been elected Fellows of the College:—Joseph Fuller, L.R.C.S.E. and M.R.C.P., Irel., Long Ashton, Bristol; Edward Barnard Fuller, M.B. and C.M., Edin., and L.R.C.S.E., Cape Town; Roland James Pope, M.D., L.R.C.S.E., 19 Coates-crescent, Edinburgh; Edward Reginald Morton, L.R.C.P. and S.E., &c., City Hospital, Edinburgh; James Crawford Gibb-Macnab, M.B. and C.M., and L.R.C.S.E., Dysart; Julian Augustus Lea, L.R.C.S., Edin. and Lond., and M.R.C.S., Eng., Carnarvon Hospital, Kimberley, Cape Colony; Arthur Conning Hartley, M.D. and L.R.C.S.E., 12 Victoria-terrace, Bedford; and John Hardie, M.B., C.M., and L.R.C.S.E., 12 Newington-road, Edinburgh.

SHORT PAPERS.

The Journal of the American Medical Association quotes the following from the *Boston Medical and Surgical Journal*:—"The adoption of a 'Ten-Minute Paper,' rule has recently become a marked feature in the work of the New York Academy of Medicine, especially in the Section in Pædiatrics, and has resulted in a marked increase in the attendance at the meetings, and a large number of concise and interesting papers. The instruction to writers of papers by the chairman contains the following:—'Hippocrates and Galen may be passed with very slight notice, as they have been dead for some time, and their opinions are somewhat obsolete. Scratch out the formal introduction and condense the body of the paper. End the paper where the subject matter ends, making its action like that of a piston syringe—begin, spatter, stop.'"

CINCINNATI HOSPITAL.

We have received the thirty-second Annual Report of this hospital—that for 1892. Only two or three matters seem of special interest. The gross cost of maintenance of each patient daily was $1·0972—Mr. Mantalini would have said, "The decimal be dem'd." The number of patients in the female wards having fallen low, the experiment was tried of closing the ward for "colored" females, and distributing them "among the medical, surgical, and obstetrical wards formerly used for white women." To the obvious amazement of the superintendent "no discord whatever has occurred, and results have proven that . . . . this consolidation was a wise action." Southern hospitals please copy! The following were the number of patients treated during the year, and the death-rate

per cent. in the various departments:—Medical, 1,627, 13·7; surgical, 1,392, 3·5; children, 354, 14·5; obstetrical, 201, 0·5; gynæcological, 103, 7·8. Of 3,815 persons "discharged and died," 2,098 were *white* natives of the United States, 604 coloured, 478 Germans, 293 Irish. On the medical side the greatest number of admissions were due to influenza (46), typhoid fever (59, with 7 deaths), malarial fever (40), acute alcoholism (206, with 2 deaths), delirium tremens (110, with 8 deaths), acute rheumatism (56), chronic (36), phthisis (179).

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"*Soloids*" *of Corrosive Sublimate.*

Acting on the advice of their medical officer, Dr. Thorne Thorne, the Local Government Board for England, last year, recommended as a good disinfectant in cholera a solution of half an ounce of corrosive sublimate, one fluid ounce of hydrochloric acid, and five grains of commercial aniline blue, as a colouring agent, in three gallons (a bucketful) of common water. It was pointed out that the cost of this disinfectant should not exceed 3d. the bucketful, and that it should not be further diluted.

The Local Government Board for Ireland adopted this recommendation of the English Board, and on August 27, 1892, brought it under the notice of the Sanitary Authorities of this country in a circular letter.

At the suggestion of several well-known medical authorities, interested in sanitary matters, Messrs. Burroughs, Wellcome & Co., of Snow Hill Buildings, London, E.C., have recently introduced what they—with some violence to rules of etymology—are pleased to call "soloids" of corrosive sublimate. These are compressed tabloids of large size. As they are made according to the formula given by Dr. Thorne Thorne in the general memorandum with regard to disinfection, issued by the Local Government Board to sanitary authorities in 1892, with the view of disinfecting sick rooms, soiled linen, &c., the firm have designated them the "L. G. B. Soloids."

Two "soloids" dissolved in a quart of ordinary water will make a solution of the strength indicated in the memorandum referred to. Considerable difficulty was experienced in obtaining a blue colour which will not stain linen, but in the "soloids" this difficulty was entirely overcome, and they will be found free from objection in this respect. The "soloids" dissolve immediately in water without crushing, and afford the most portable and economic means for the preparation of a reliable disinfectant solution. The liquid is of a grayish blue colour.

We may add that the "L. G. B. soloids" are put up in bottles of 100 at 2s. (two shillings) per bottle.

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1144 page, THE LANCET, May 13th, 1893, gives an exhaustive analysis of VIROL.

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(3.) That the presence of Malt Extract facilitates the digestion of additional starchy elements of the Food, which Cod Liver Oil cannot do.

(4.) That the Fats, Carbohydrates, and Proteids are combined in their natural and unchanged states in certain constant proportions, simply by a mechanical process of mixing at an even and low temperature unaided by any drug or chemical of a preservative nature ; and that so combined they remain stable and not liable to decomposition.

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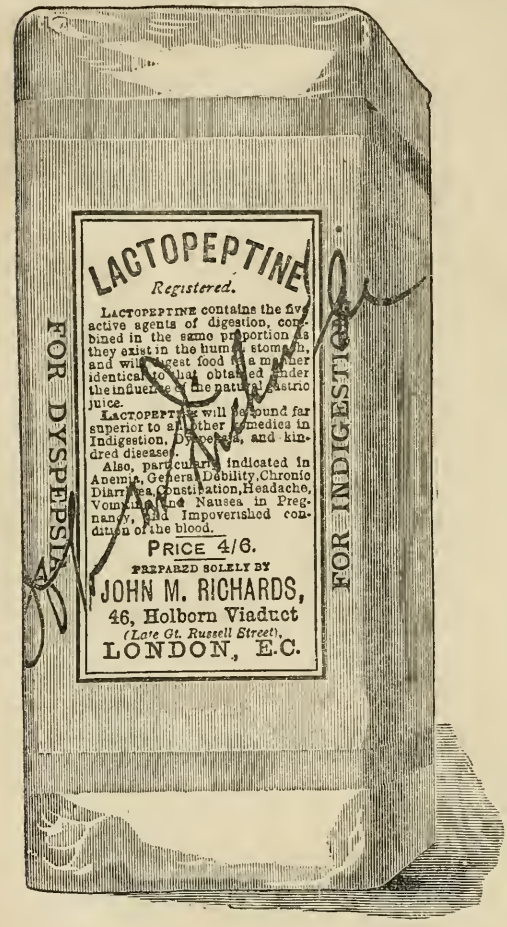
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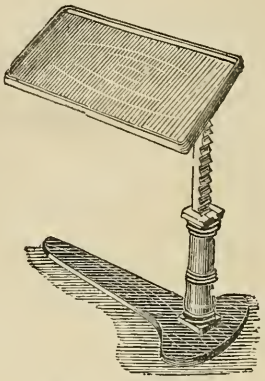

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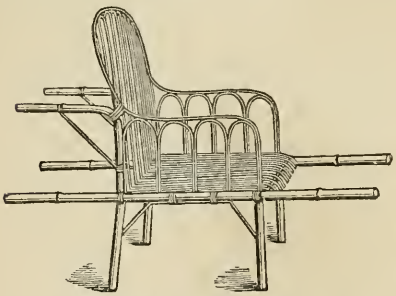

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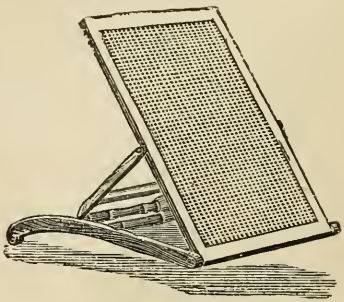

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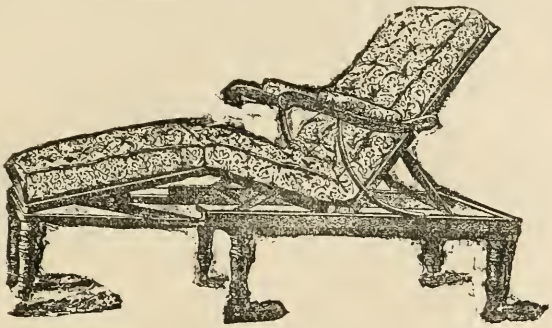

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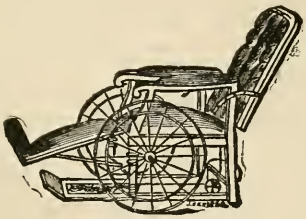

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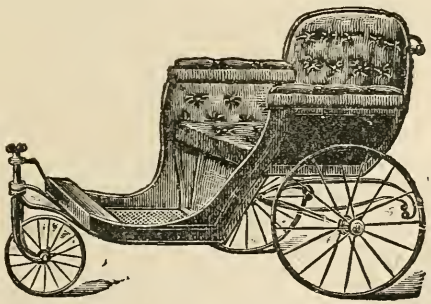

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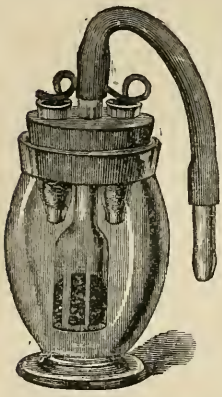

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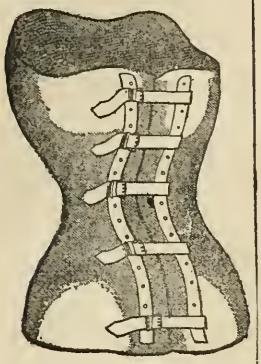


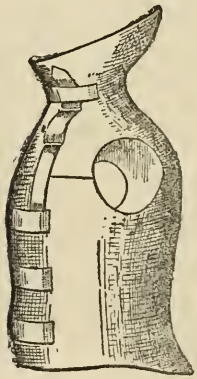
Instructions for Measurement, &c.

JACKET (*in cases of slight deformity*).

Circumference at axilla.
„ waist.
„ hips.
Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

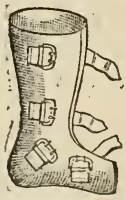
In all cases it should be stated if for male or female.



CERVICAL JACKET.

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.



CLUB FOOT.

Circumference below knee.
„ ankle.
„ heel and instep.
Length from below knee to ground.
„ of foot.

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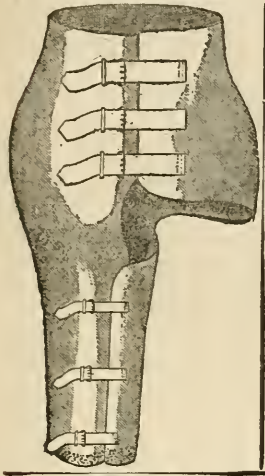

Instructions for Measurement, &c.

HIP SPLINT.

Circumference at waist.
„ hips.
„ thigh, top of
„ above knee.
Length from waist to groin.

State if for right or left side.

LEG SPLINT.

Circumference at top of thigh.
„ above knee.
„ at knee.
„ below knee.
„ calf.
„ ankle.
Length from groin to centre of knee.
„ centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.

These Splints can be fitted perfectly to the Patient if softened either by hot water or in a Heater made for the purpose. When mounted with webbing, hot water will do; if with leather, a Heater should be used. The material becomes quite hard again in two or three minutes.

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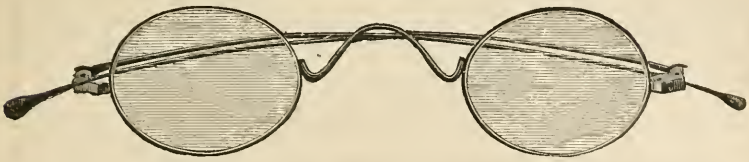

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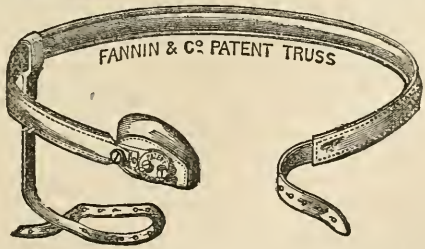

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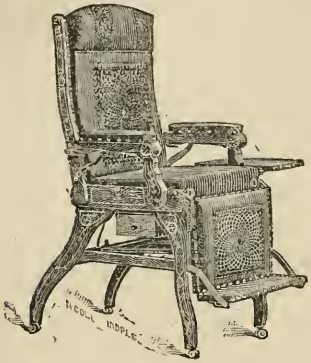
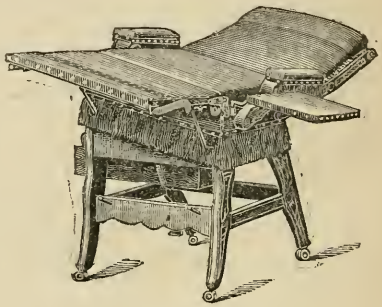
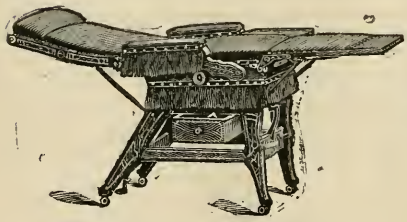


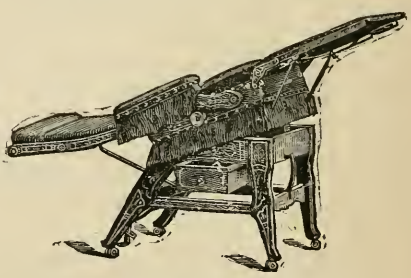
Normal Position.
Can be also used as an Ordinary Office Chair.



Lateral or Sinus Position.
This position is important to gynæcologists, and in treatment of rectal diseases, with side table for instruments.



Horizontal Position



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